

THE INFLUENCE OF SOCIAL RESILIENCE ON ARCHITECTURE:

Toward the design of a Multi - Purpose Centre for the Senior Citizen
Population in Durban

By

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DECLARATION

Submitted in fulfilment of the requirements for the degree of Master of Architecture, in the Graduate Programme in Architecture, University of KwaZulu - Natal, Durban, South Africa.

I hereby declare that this dissertation is my own unaided work. All references and citations used have been specifically acknowledged. This document is for submission for the degree of Master in Architecture to the School of Built Environment and Development Studies, Kwazulu - Natal, Durban, South Africa.

This document has not been submitted for any degree or examination in any other university.

Shivani Budhal

Date

DEDICATION

This book is dedicated to my mum. Thank you for being my rock of stability throughout my life. Your endless love, support and encouragement has given me constant strength throughout this process and for that, I am truly grateful.

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ABSTRACT

The concept of resilience represents the social and spatial inequalities that exist among the senior citizen population and continues to grow everyday. The notion of resilience is as a result of the rapid global urbanisation process that shapes the urban fabric and thus, fails to connect senior citizens to the mainstream of society and the physical environment. The exclusion from planning and developmental programmes and processes has forced senior citizens to create their own culture and identity by either claiming their rights to the city and become active agents of the developing urban environment; or reside in aged-care facilities where their plight is hidden away and neglected.

This dissertation draws upon relevant literature, theories, concepts, case studies and precedent studies that are pertinent to the fundamental social and physical challenges of senior citizens. The theory of Critical Regionalism and The Right to the City explores the needs of senior citizens in order to create a decent form of living in an inclusive environment. The various precedent studies address the importance of an inclusive architecture and the importance of economic activities for senior citizens to create independent and active members of society. Similarly, the case studies analysed identified the value of senior citizens through their unique culture and identity.

Therefore, by understanding and identifying various strategies, design principles and guidelines for an inclusive architecture, this dissertation unpacks the socio-economic benefits of senior citizens. The objective is then to establish a Multi-Purpose Centre that aims to facilitate social interaction between senior citizens and the rest of society as well create a successful age-friendly built environment.

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INTRODUCTION

1.1.1BACKGROUND

Cities currently face a time of unprecedented global urbanisation (Holston). The effects of this urbanization exacerbate the lifestyle of the elderly, senior population, having to adjust and adapt their physical and mental lifestyle to the current urban environment. Within the context of urbanization, architecture often fails to attend to the needs of all people, but rather focused more on the social power elite (Mills, 1956). The elite, according to Mills (1956), are those that engage in dominant positions, such as the political and economic institutions. These institutions provide decisions that have negative consequences on the vulnerable population of the world, more specifically, the senior citizen population. Thus, facilitating the process of social exclusion and separation as senior citizens are unable to exercise their rights within the city.

DeFazio (2002) states that developments in globalization has increased the gap between the haves and have-nots. Therefore, cities today have become explosive sites of social contradiction and economic inequality (DeFazio, 2002). As urbanisation continues to grow, the barrier of social, economic and spatial segregation extend urban separation between the senior citizens and the rest of society.

The elderly population increases each year, leading to a higher demand for society to take care of the elderly. It is estimated that by the 2050, there will be over 2 billion elderly people in the world and most of them will live in developing countries (UN Member States, 2015). Although the government has tried to alleviate the stresses of senior citizens through temporary solutions such as social groups, welfare programs and aged care services; these services do not assist senior citizens in gaining independence and their identity in society. These places do not provide positive living environments, bring no sense of place or belonging, and are often compelled by greed (Rondganger, 2015). This results in senior citizens being left to create their own living strategies, forming their own community and culture, thus highlighting the issue of social and economic exclusion.

The effects of mass globalization, unemployment, poverty, poor physical and mental health, lack of affordable housing, housing and age care policies promote the senior population to resort to the facilities of care services.

Locating these issues within the context of Durban, this dissertation will seek to explore the conditions of the senior citizens, shifting the paradigm, so that they are positioned first and foremost in society. Thus, providing an opportunity for the built environment to act as a platform for the senior population to restore their culture and identity, which has disintegrated over the years. It will also facilitate for community participation, empowering senior citizens and developing a model for social interaction between the seniors and society.

Hence, the architectural challenge is to create socio-spatial facilities, giving senior citizens a quality of life, an importance in society and to re-integrate them rather than exclude them.

“One should take advantage of the elderly’s competences and use as a resource. To see aging as something positive in terms of their experience” (Nilsson, 2017: 10).

1.1.2 MOTIVATION/ JUSTIFICATION OF THE STUDY

In the current urban environment, despite aged-care facilities and welfare organisations, often the senior citizens are forgotten and are at particular risk of social exclusion. They are the most vulnerable when approaching the challenges of just living and surviving. Physically, they are more susceptible to illness and disease and have difficulty getting around. The senior citizen population have no place to go once being forced out by their children and their earning capacities are minimal (Badshah, 1996). Howe (2012) states that the elderly fall short of a safe, engaging and healthy environment. This is as a result of land use patterns and transportation systems that favour the automobile, failing to provide alternative transportation for senior citizens. Minimal sidewalks and comfortable points of rest hinder physical activity and therefore result in poor health conditions. The growing market economy relies on individuals who are young and healthy. The depressing reality behind senior citizens posits a manifestation of isolation and loneliness.

Thus, the primary focus behind this research is:

1. The issue of aging has discouraged social interaction with various groups of people and this promotes social exclusion. Therefore, a sensitive approach is needed to be considered when designing a more inclusive environment, seeking ways in which urban design and architecture can act as stepping stone in addressing the challenges of social interaction.

“Interactions are the basis for the formation and continued existence of social organizations”.

-Lang in Lozano (1990: 163)

2. Mass globalization and economic growth will not alleviate the need for income (National Coalition for the homeless, 2009), especially for the senior population. This dissertation investigates the role architecture plays in responding to the needs of senior citizens through the provision of socio – spatial facilities. These social–spatial facilities will act as a platform for engagement and social integration between senior citizens and the public, serving a benefit to both its users.

1.2. DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

1.2.1. DEFINITION OF THE PROBLEM

Despite cities being the engines of economic, social and political growth, the consequence is that senior citizens are unable to integrate themselves into the built environment resulting in social, spatial and economic exclusion. Their individual identity has disintegrated and they are unable to exercise their rights within the city. Despite the modernity of society, senior citizens continue to struggle under the conditions of urbanity (Stols, 2013).

Senior citizens have been largely neglected because of their age. Lack of job opportunity, together with the aforementioned health needs of seniors such as dementia, chronic illness, impaired vision and hearing and the loss of mobility are just some of the conditions that generate the dividing line between the senior citizens and the younger active members of society. Senior citizens endure everyday difficulty to modify and adapt their physical environment to their physical limitations. The modern city presents the reality of psychological stresses on urban individuals as well as weakening social support that could help ease these stresses (Fischer, 1976).

Therefore, the problem statement defined is: In cities so actively involved in adhering to the needs of senior citizens, the state of marginalization and exclusion are active agents of resilience amongst seniors. Through the process of urbanization, architects, policy makers and planners capitalise on urban growth and development and therefore, not enough is being done in terms of designing and providing for the needs of the senior citizen population. As suggested by Sandercock (1998: 30) *“If we want to work toward a policy of inclusion, then we had better have a good understanding of the exclusionary effects of planning’s past practices and ideologies”*.

1.2.2 AIMS

The fundamental aim of this study is to identify and understand the resilience of senior citizens within Durban. By identifying resilience, this research will further explore different forms of resilience by which the contestations of exclusion occur. This dissertation will explore theoretical literature that will seek ways in which social resilience may facilitate architecture and the built environment, through the process of creating social integration through socio-spatial facilities.

Furthermore, it will explore architectural solutions that can be used to alleviate the challenges that senior citizens experience to enhance their livelihoods. The result of this process is to conceptualize a proposed Multi-Purpose Centre that will respond to the needs of senior citizens, allow for an inclusive environment, encouraging interaction between senior citizens and society as well as reclaiming the elderly’s relationship with the built environment.

1.2.3 OBJECTIVES

The primary objectives of this research are to:

1. Explore the role of how the built environment, together with the community, can form a platform for social integration and inclusion for senior citizens.
2. Identify the manifestation of resilience as a survival strategy in the global and local developing world.
3. Develop an understanding of how socio-spatial facilities can respond to the challenges of senior citizens.
4. View the lifestyle and active participation of working senior citizens and those in aged-care facilities.

1.3 SETTING OUT THE SCOPE

1.3.1 DELIMITATION OF THE RESEARCH PROBLEM

This research is primarily focussed on a certain age group of the senior population between 60-75 years. This focus group is already accommodated but earn a minimal income. The problems postulated are those of social, economic and political challenges that these senior citizens experience. Therefore, various theories, both social and architectural, will provide a platform for the built environment and architectural solutions to these conditions of social exclusion. The research will be limited to the Durban CBD.

Housing policies, the urban poor and elderly urban poor, street dwellers, mental health and disability, drug and alcohol abuse are not the focus of this study and therefore, will not be researched.

The proposed research will focus on the concept of social resilience and social integration and how it can be incorporated within the built environment, in order to provide a more inclusive social system for senior citizens.

1.3.2 DEFINITION OF TERMS

Social Architecture: In the context of this investigation, social architecture acts as a facility to develop human behaviour through a Multi-Purpose Centre to improve the livelihood of senior citizens within the built environment. It helps to encourage senior citizens to develop an identity for themselves.

Built environment: It is characterized by elements of architecture and urban design that comprises of solid structures (streets, parks, roads, buildings) as well as voids (linkages, networks, paths, human experience).

Senior citizen: As defined by Little (2016) is a collective body of people from the age classification of between 60-75 years, who share common social and cultural factors pertaining to their circumstances. This group of senior citizens, in relation to this paper earn little to no income and attempt to generate an income by different forms of informal survival strategies.

Social resilience: As defined by Cacioppo (2010), social resilience recognizes that *“human civilization rest on the specialization, differentiation and orchestration of our human expertise so that we, as a collective, can achieve more than what we could by our solitary efforts”*

Socially resilient spaces: Within this research, these spaces are defined as places where urban dwellers interact with one another every day. This type of environment is characterized by urban, social spaces and the way in which these spaces are designed.

City: cities comprise of diverse cultural, economic and social group. In this investigation, a city refers to both the sites that benefit the young, middle-aged and wealthy population and sites for the senior citizens.

Community: in this context of research, community refers to a collective group of people who share common values and identity in terms of their interaction with the built environment. In this case, it is social and economic exclusion as this group of people, namely the senior citizen population, are forgotten and are seen as ‘unfit’ to benefit society.

Living: in this context of research, living refers to the livelihood structure of individuals in the urban landscape and the relationship between architecture, the built environment and individuals.

Identity: it speaks to the individuals’ character and what makes them unique. In this research, it refers to the identity of senior citizens.

1.3.3 STATING THE ASSUMPTIONS

This investigation assumes that city planners and architects are secondarily involved in the structure of the economy, resulting in a lack of infrastructure for the needs of the senior citizen population. Furthermore, it is assumed that the senior citizen population do want to be helped. Architecture can be designed to create spaces that educate and facilitate the needs of the senior citizens, changing their lifestyles for the better.

1.3.4 HYPOTHESIS

It is hypothesized that a Multi-purpose Centre can be used in the context of the built environment to assist toward the needs of the senior citizen population and play a significant role in economically and socially empowering them. Furthermore, this Centre will provide for more inclusive and participatory solutions for senior citizens, creating more socially integrated spaces to alleviate their conditions of exclusion.

1.3.5 KEY QUESTIONS

Primary question:

How can architecture respond to the needs of senior citizens in creating socially resilient spaces?

Secondary questions:

1. How can architecture cater to spaces for senior citizens?
2. What principles of architectural design create inclusive and exclusive environments?
3. How can the livelihood strategies of the senior citizens be adapted to create spaces for social integration?

1.4 CONCEPTS AND THEORIES

THEORETICAL FRAMEWORK

1.4.1 Introduction

Through an investigation of different theories, this dissertation aims to conceptualize how the built environment functions and therefore, creates a platform for both social and economic inclusion and exclusion. Each of these theories represent the senior citizen population within developing cities.

1.4.2 The Right to the city

The concept Right to the City was first developed by Henry Lefebvre (1968) in his book *Le droit a` la ville*. The right, he explained was both a cry and demand. The cry being the struggle of everyday life for urban dweller and the demand was actually a command to look and this crisis and create a new alternative urban life that support the fundamental anthropological desire for meaningful interactions, were everyday activity become "expressions and moments" (Lefebvre 1968: 147).

Therefore, the notion of the right to the city, when described in this dissertation, is defined by the way in which the rights of senior citizens are ignored both socially and spatially. Urbanization has resulted

in the divorce between senior citizens and the built environment. They are denied the right to appropriation and participation. Thus, perpetuating the processes of social and spatial exclusion within the built environment. Lefebvre (1968) states that's everybody has the right to utilize spaces within the city, thus establishing who the city belongs to. On the contrary, the senior citizens are unaware of how to exercise their rights within the current city and as a result of this, these rights are "*one of the most precious and neglected of our human rights*" (Harvey, 2008).

1.4.3 Theory of Culture

Culture, according to Morell (2001), can be unpacked through different forms from semi-fixed features such as landscapes, objects, colours and materials to non-fixed features such as language, music, behaviour, food, religion, song and dance. This recognizes the importance of the evolution of culture and the role of the built form in providing supportive environments.

The culture of the senior citizen population as defined by Kaitlin Phillips (2012), serves as a refuge for those who have deviated from the norm of society and have been rejected from the culture of their past. Furthermore, Phillips (2012) states that a unique hierarchy is created within the elderly community. Rapoport (2005) theorizes that the relationship between culture, design and the built environment intercorrelate, responding to one another, creating an urban landscape in which occupants interact with. Thus, there is a need for design to respond to culture and its occupants and therefore, by considering different group lifestyles defined by their culture; planners, designers and architects can accommodate for a more culture-environment interaction. The culture-core, as theorized by Rapoport (2001), is that through the stages of the developing environment, the culture-core remains intact and retained, thus maintaining cultures of different groups and their identities. Therefore, culture continues with life but "*is also limited by arbitrary restrictions of experience*" (Mumford, 1970: 285).

In this research, the culture of senior citizens is unique and developed amongst them to meet their needs, despite the challenges of social and economic injustices. Architecture should reflect the human mind and the human mind should reflect architecture and through this process, architects and city planners are able to create a built environment that is supportive toward its inhabitants (Glass, 2013).

1.4.4 Critical Regionalism

The notion of Critical Regionalism was first developed by theorists Alexander Tzonis and Liane Lefaivre (2008). Tzonis and Lefaivre (2008) identifies the loss of place and placelessness through globalization and urbanism.

Ricoeur (cited in Frampton, 1983: 16) states that while the advancement in the urban environment persists, civilization, traditional cultures and life itself are gradually deteriorating. The importance of moving toward a liveable urban future is crucial for our urban development and urban dwellers.

Frampton (1983) states that critical regionalism is about balancing both the global and local architecture, as well as rooting architecture in its spatial context. This can be done through a responsive architecture toward its physical and environmental conditions of the site. The emphasis of critical regionalism is on the inhabitants occupying the site and through the elements of materials, light, textures and shadows; the building then creates a richer, more welcoming experience.

To further support this, Relph (2008) states that the significance of place works hand in hand with the way in which people experience space within a place. The uniqueness of place is focussed on the spatial experiences, intentions and actions of its inhabitants. Therefore, space and place are directly involved in the human experience and “*we derive meaning from their spatial context*” (Relph. 2008: 3).

What is evident is that in terms of the developing city, senior citizens continue to struggle under the unfriendliness of the urban landscape. The spatial heterogeneity enhances the performance of resilient spaces but deteriorates the liveability of urban areas. Hence, questioning the appropriate liveable urban environment for the senior citizens.

CONCEPTUAL FRAMEWORK

1.4.5 Identity and Living

Martin Heidegger (1957) suggests that the concept of identity is a fundamental trait of being or belonging together. He notes that the understanding of the physical environment begins with its’ urban dwellers who reveal their identities according to the effect of the environment. Furthermore, he mentions that meanings of space can be depicted through language, as it is language that shapes the world and our existence (Heidegger, 1957).

Identity as theorized by Erving Goffman (1959) is purely based on “*a persons’ subjective sense of his or her own situation and the character that person comes to as a result of his or her various social experience*” (Goffman in McCarthy, 2013). Rapoport states that the physical urban environment eliminates certain possibilities for different groups of people. In this case, the senior citizen group. Thus, in turn, affecting the socio-cultural environment. As the physical environment develops, the consequence results in senior citizens experiencing difficulty of mobility, access to public transport, viability, safety, security, comfort and reduced social interaction. The identity of senior citizens is constructed through their own survival strategies, whilst being separated and excluded from social and economic growth. The question that Rapoport raises is how can social contact be facilitated between the elderly and the rest of society? The design of the environment should not posit a challenge to the elderly but rather act as a catalyst of social integration and a “*field of learning and a learning-training device*” (Rapoport 1995: 237).

The concept of Living, by philosopher, Jose Ortega y Gasset (1964), provides a framework for living and the livelihood structure of individuals in the urban landscape. Gasset (1964) explains that living is more than just existing as human beings but merely the drive to achieve this existence. Living is encapsulated by the structure and fundamental relationship between man and the built environment. Social effectiveness, integrated social relationships and human experience manifolds within the environment. However, whilst the city is a utility for collective living, it is also an active agent for disintegration (Mumford, 1970). To further support this statement, Gasset (1964) states that the existence of an individual stems from the obligation to constantly fight against the difficulties that the urban environment presents to them, economically and metaphysically. In this way, senior citizens constantly create their own identity and existence and therefore, it makes no sense to limit the capabilities of these individuals.

In this research, the concept of identity and living seek to understand how the identity and character of senior citizens are affected by architectural elements that make up place that one dwells in.

Architecture has a direct relationship with the built environment and ones' physical and mental needs. Architecture should respond to ones needs socially, culturally and spatially and not just be a symbol of art and order.

1.5. RESEARCH METHODS AND MATERIALS

The following section explores different research methods and approaches applied to this research to help better understand and identify livelihoods and survival strategies of senior citizens. The methodology will be of a qualitative approach through primary and secondary data collection. The samples thus selected is that of senior citizens, adopting a form of resilience and various strategies to support their specific livelihoods.

Primary research methods:

Focused interviews:

Interviews will be carried out with local NGOs and organizations that primarily focus on the care for the elderly. The interviews may be conducted once consent is granted from these organisations. The aim of these interviews will be to understand the relationship these organisations have with the elderly and what is done for them to encourage social inclusion and interaction with the public.

Case studies:

This will be done through observations of senior citizens, provided that the consent forms are signed by them granting permission to observe their livelihoods. The primary aim of the case studies is to focus on senior citizens' livelihoods within various welfare organisations, as a means of resilience.

Photographic analysis:

Photographs will be taken personally, with the permission from the elderly population, to observe their lifestyle in order to support the information gathered together via other research methods.

Action Research:

In this research, the study will focus on the elderly group, their behaviours and performances through observation, with their consent.

Spatial mapping:

The processes of social exclusion of the senior citizen population stems from the manner in which these groups utilize spaces in the changing environment, whether these spaces are designed for them or not, such as informal trading on pavements or under bridges. The function of these spaces serve the needs and activities of senior citizens. Therefore, it is important to conduct this study in order to better understand the relationship between those excluded and the built environment. It will provide an insight on the way senior citizens use spaces of the built environment, by understanding their routines, safety and security and livelihood strategies.

Secondary research methods:

Precedent studies:

This will be researched and analysed both globally and locally in order to provide an understanding of architecture respond to the needs of the senior citizen population in creating socially resilient spaces.

Literature review:

The literature review will form from various concepts and theories that is important to the research questions. Various forms of published literature such as research papers, documents, television broadcasts, reports and books will be analysed in order to strengthen the arguments in terms of social resilience and social integration of senior citizens.

Conclusion

The following chapter explored different forms of research and its limitations. Furthermore, this research helped define the primary problem as well as the framework for different theories and concepts that may be important to the research questions.

CHAPTER TWO - CULTURE AND IDENTITY OF SENIOR CITIZENS IN THE URBAN ENVIRONMENT

2.1. INTRODUCTION

In the developing world, the challenge when focussing on senior citizens, is the creation of a socially inclusive environment. However, the urban environment posits a conflicting image of this process. The following chapter will explore the manifestation of culture and identity through the processes of globalization and modernism amongst the senior citizen population. It will also focus on the concept of identity of senior citizens and the way in which society includes or excludes them economically and spatially. In order to successfully integrate senior citizens within the built environment, these issues need to be addressed.

2.2. URBAN GROWTH AND THE FORGOTTEN POPULATION



Figure 1- New York City before and after rapid urban growth.

Source: <http://www.vintag.es/2017/08/before-urbanization-heres-what-new-york.html>

The rapid increase in the number of senior citizens posits a challenge to the global world. It is important to note that South Africa has one of the most rapidly aging population and it is estimated that by 2025, growth of senior citizens is said to increase to over 5.3 million (Sebelius, 2012). This

unprecedented rate of aging holds a complete shift in the way the urban world is challenged to adapt to change.

Badash (1996) suggests that urban planners must allow for development strategies for the expansion in developing countries, whilst considering the changing lifestyles of different population groups. The primary function of these development strategies involves the concept of a liveable urban future, orientated towards improving the quality of life of individuals and by the same process, achieving the conditions of an 'environmental equilibrium' (Badash, 1996: 1).

However, Doxiadas (1963) questions this statement by suggesting that the reality of the epoch of modernism has separated the relationship between man and the built environment. Public and open spaces are dominated by machines and cars and are gradually taken over by the expanding city.

“The cities of the past, most of which, even if they were once satisfactory, have now been turned into hybrids where the old shell has to serve new needs and where the quiet city of the past, built for human beings has been taken over by machines and cars”

-Doxiadis (1963: 19)

Furthermore, Doxiadis (1963) postulates that urban dwellers have no real connection to the urban environment. This is detrimental, especially to the senior citizen population as they are often driven to the shadows of development and economic activities and planning, proving to be a pressing challenge when addressing the needs of senior citizens. What is evident is that senior citizens require more notice and observation in order to facilitate their contribution to society. Doxiadis (1963) further points out that society has become slaves to the process of the developing urbanity, obliged to this new form of living in the urban environment. While the city is playing host to this modernity, the urban environment is slowly degrading under the impact of this new machine age. The damaging result of modernism in society is the lack of food, lack of shelter of those individuals poorly housed or not housed at all as well as those living in devastating conditions served by their existing structures (Doxiadis: 1963: 42). He further points out that monumental and cultural buildings such as churches, palaces, city halls and monuments were formally the significant architecture of the city. However, currently, skyscrapers and high rises form the dominant part of the urban environment, whilst these monumental buildings are tucked in between. It can be assumed that while these buildings have lost their symbolism and significance in the city, at the same time, society has disregarded the functions and characters of these monumental buildings (Doxiadis, 1963: 53).

The built environment is a complex structure where the majority of the population live and work and where most of the economic and social activities occur (UNCHS in Badash, 1994: 1). Thus, impacting the quality of the aging experience. The problems in the current urban environment extend beyond the scope of the home, creating unrelatable spaces and places for the senior citizen population. Howe

(eds, Wagner & Caves, 2012: 84) states that as one gets older, the ability to drive safely poses a challenge, especially to senior citizens. The inability to focus, as well as impaired vision, confusion and disorientation adheres to the challenges of driving. Therefore, forcing senior citizens to resort to walking. Further to this, Howe (2012: 85) points out the difficulties in mobility of senior citizens. The reality of poor walking environments of senior citizens is as a result of this new machine age, servicing high traffic volumes and ultimately eliminating sidewalks. Thus, perpetuating the loss of walkable cities (Hou, 2016).



Figure 2 - An overcrowded sidewalk in the city of New York depicting the uncontrolled sprawl of urban dwellers. How would senior citizens overcome the challenge of walking amongst this form of disorder?

Source: <https://nyc.streetsblog.org/2017/05/23/dot-to-widen-sidewalks-on-7th-avenue-between-penn-station-and-times-square/>



Figure 3 - Durban, South Africa, the Umgeni Road intersection being a product of this new machine age, eliminating the human scale.

Source: <https://highwaymail.co.za/193220/ramp-at-umgeni-road-interchange-now-open/>

Public spaces, such as shopping malls, as suggested by Brown (2016), are primarily designed based on the power and culture of modernism and urban design, thus, including and excluding certain groups of people, namely specifically that of senior citizens and disabled citizens.

These needs include the notion of engagement between these marginalized groups and the rest of the community, programs, businesses, service agents and children (Howe, 2012: 86). Therefore, identifying opportunities for the elderly and understanding their perspectives and experiences both socially and physically. Another primary need involves the notion of linkages within the built environment as senior citizens and the disabled move through it. Howe (2012) states that the finer details of urban environmental designs are often overlooked and therefore it is up to urban planners and designers to put these design principles into action.

However, Badash (1996) suggests that often governments in developing societies lack the knowledge of how to respond to the needs of the disabled. Therefore, much like the senior citizen population, their circumstances are ignored and often hidden away. Badash (1996) further states that urban designers do not take into consideration the needs of the disabled, but rather aimed at one section of society. The publicness of these spaces constitutes a large part of urban dwellers' liveability but contests the human experience of senior citizens in relation to the signs and symbols, patterns of conduct and integrated social relationships (Mumford, 1970: 3). Wagner and Cave (2012: 85) state that senior citizens are more likely to injure themselves as a result of street-falls rather than that of driving. The notion of urban development includes poorly maintained and narrow sidewalks, crowded streets and street furniture which create a fragmented system of walkability and therefore perpetuate injuries of senior citizens (Rosebloom *et al* in Wagner and Cave, 2012).



Figure 4 – The Florida Road precinct is evidence of the level of urban growth. A graphic representation of public life is created by various different activities along the street edge. What can be seen is the urban complexity of social and spatial organisation, generating the symbol of an urban city life.

Source: Author

It is evident that these public spaces are designed for this global urban world and for those who can afford these facilities. To further support the statement by Badash (1996), the context of Durban, South Africa, more specifically, the Florida Road precinct is pertinent in this research. Although a universal design aimed at restoring and rejuvenating the community, the appropriateness of publicness and its social setting questions this new paradigm for the built environment. The notion of this precinct design is primarily targeted at citizens utilizing these spaces as a platform for social integration, namely, the younger adults. The disabled and senior citizens are irrelevant in the design of these spaces. The busy and narrow sidewalks, the difficulty of accessibility to spaces such as ramps as well as the long distances with very little to no points of rest prove unfit for the integration of senior citizens. Therefore, conceiving an environment of social disintegration and unrelated specialism (Mumford, 1970: 403). It can be assumed that the perception and experiences of the built environment in the eyes of the senior citizen population reflect overwhelming behaviour and psychological stresses, unable to adapt to the magnitude of urban life.



Figure 5 & 6 – The sidewalks of the Florida Road Precinct is an example of a difficult and obstructive environment for the disabled and senior citizen population. The narrow sidewalks with an uneven surface and little to no points of rest such as benches under shaded areas portray the actual isolation of these citizens from the city.

Source: Author

It is evident that the new urban age is unresponsive to the needs of senior citizens as they have been largely ignored by government, architects and city planners, yet, their conditions deserve further attention when exploring the paradigms of an inclusive environment. These spaces are primarily designed for those who live, work and play in the current urban environment. Those marginalised groups are merely an afterthought of society.

2.3. THE CREATION OF IDENTITY AMONGST SENIOR CITIZENS

“There is something active about identity that cannot be ignored: ‘it isn’t just there, it’s not a thing’, it must always be established. “

– (Jenkins, 2004: 4)

The concept of identity reflects different meanings for different individuals through different urban experiences. The characteristics of an individual reflect their experiences and the ways in which they react to them, for no two lives of individuals are similar. Identity, as postulated by sociologist Erving Goffman (1959) is the notion of both personal and social identities which overlap each other, giving the unique attribution to an individual. Personal identities are attributed to oneself, determining our individual expression and personality. Social identity stems from groups that people are associated with.

The senior citizen population are often stereotyped as a burden to society, making them feel invisible and devalued. According to Barnhart (cited in Bernard, 2012), senior citizens are portrayed negatively, from terms such as forgetful, grumpy, fragile, frail and wrinkled. However, Badash (1996: 25) states that senior citizens can envisage a vital, positive role in the urban environment, such as community-based projects, development-based projects and through their knowledge, educate the younger citizens.

The Kato Sangyo Company in Japan is the most successful senior citizen employment model. Kato Sangyo produces mechanical and household appliances. Resistant to the stereotypes of senior citizens ‘unfit’ to work, Kato Sangyo employed 40 senior citizens over the age of 60 to carry out factory work in order to increase sales. The company recognized the role of senior citizens in society and their potential to carry out work such as accounts managers, safety management and their expertise on production management.



Figure 7 – A factory worker assembling the structure of an engine car part at Kato Sangyo. What is evident is that senior citizens yearn for a place in society, to be a member of society and empowered through their supportive community.

Source: http://money.cnn.com/2011/06/09/news/economy/trade_balance_exports_april/index.htm

Since the employment of senior citizens in Japan, the community appreciated the contribution to the livelihoods of senior citizens and their contribution to the economy. (Kato, 2007: 8). Keishi Kato (2007) states that the significance of the value of senior citizens stems from a conducive, social and barrier free working environment, creating a strong sense of belonging in the globalized third world.

The Sikh community of Birmingham is a prime example of both community – based and development-based projects. Senior citizens and the youth of the Sikh community worked together to regenerate and renovate a school for children. This project involved the elderly utilizing their skills of cooking, sewing and storytelling. The primary approach of this project aimed at enhancing the senior citizen community, developing a healthy experience of aging and adopting a connection between heritage and families of the community under the process of modernism (Shepard in Frenton and Draper, 2014: 3). This not only assists senior citizens to overcome the challenges of isolation and exclusion, but by the same processes, assist in responding to the needs of the community.



Figure 8 - An elderly member of the Sikh community actively involved and included as a citizen, supporting the notion of contributing positively to his community.

Source: <https://www.birminghampost.co.uk/lifestyle/birmingham-sikh-nursery-little-school-3935007>

Manuel Castells (2006) suggests that identity is both cultural and local. It is a manifestation of personal experience, drawing on culture, history, linguistics and geological components. For some, it is a process whereby people rely on cultural aspects to convey-meaning to their lives. For others, it is purely based on individuality, something that lies beyond them personally and defines them. Castells (2006) has conceived 3 forms of identity consisting of Resistance-based identity, Project-based identity and Legitimising identity.

Resistance-based identity; can be defined as the emerging of self-identity through the processes of social, political and economic exclusion.

Project-based identity; this can be narrowly defined as cultural and historical values and roots of individuals that help them redefine their position in society.

Legitimising identity; this is purely based on the political power of cities whereby the government reproduces and rationalizes their power and dominance.

The most influential term of identity that can be applied in this dissertation is that of Resistance-based identity. When considering the senior citizen population, the importance of Resistance-based identity in the evolution of the world is the realism of spatial rights used in order for survival. In the current urban age, this form of identity has been strongly asserted by senior citizens.



Figure 9 -The Lime Market of Warwick Junction is an example of elderly women redefining their spatial rights through informal trade under the bridges of Durban. Therefore, emphasizing the manifestation of resistance-based identity.

Source: <http://durban.getitononline.co.za/2016/11/29/markets-of-warwick-where-a-swirl-of-cultures-meet/#.WyptJ1Uza00>

Over the years, rapid and large social and economic changes have both benefitted senior citizens and at the same time, caused them to suffer. Health care facilities are easily accessible and advances in medicines allow senior citizens to live for much longer. However, despite these approaches, the relevance and importance of senior citizens is still a pressing issue in the environment. Little (2016) states that in some Western Countries, senior citizens are portrayed as independent and are able to adhere to their daily needs and care for themselves. Unless their health conditions deteriorate drastically, family members step in to assist in the care of their senior members. North America

contradicts this decision and perceives senior citizens as a burden, unable to provide the necessary support and care (Hashimoto in Little, 2016). According to the Adult Protective Services (cited in Psychology Today, 2018), it is said that roughly 500 000 American senior citizens are abused, neglected and exploited by family members each year and nearly 50% of elder abuse cases as a result of neglect. Thus, resorting to accommodate senior citizens into aged care and frail care facilities.

“The worst possible attitude toward old age is to regard the aged as a segregated group, who are to be removed, at a fixed point in their life course.....to live in desolate idleness, relieved only by the presence of others in similar plight”.

– Lewis Mumford (1956 cited in Simpson, 2010)

This is devastating for senior citizens who are segregated from the rest of society. Through these methods of care, the result is social exclusion, emotional and psychological stresses.

Lewis Mumford (1970) states that the urban environment is the highest form of associative social life. However, with the rise of urbanity and modernity, the social structure of the environment has become inadequate and the emphasis has now shifted progressively to the need for more buildings. These material changes alter the urban environment and manifests in personality disintegrations of citizens. Dovey (2010: 72) further supports this by stating that the character of place identity both spatially and socially, disintegrates as urbanism manifests. She further states that the urban environment plays a significant role in the “mnemonic anchor” and is regarded as meaningful space. Therefore, *“our experiences in the world carries its own meanings, and the places in which these experiences occur become imbued with those meanings”*, (Dovey, 1985: 7). Thus, evoking a connectedness between the past and present and conceptualizing memory through association and experience.



Figure 10 - Predominant traders at Warwick, elderly women preparing a Zulu delicacy at the Bovine Head Market as a means to generate an income through her expertise. Somehow, in the age of globalisation, these elderly women are able to share their cultural influences, practices and heritage with different generations.

Source: <http://opencityprojects.com/the-bovine-head-market/>

Dovey (1985: 10) states that the warm embrace of being inside a space, as opposed to outside, accentuates the spatial dialect between place and its surrounding macro context. What this means for senior citizens is that being indoors among an unfamiliar environment and being in a place of certainty, safety and security, creates an environment comforting enough for their experiences. It is assumed that the unfamiliar and insecure environments threaten senior citizens and therefore urbanism posits a challenge for senior citizens to easily adapt to the current environment. Some senior citizens often rely on their own ability to survive in the morphology of urban spaces, whilst others move to an environment that better suits their needs, in this case, aged care facilities.

Identity also stems from the social interaction amongst groups that individuals belong to. Different social groups that form the social structure of the city heightens the ability of individuals to overcome instability and insecurity as a norm in the world (Wirth, 1938: 16). This is pertinent to senior citizens who have been segregated by their differences and social status in the urban world. As postulated by Fischer (1976: 106), the process of globalization increases personal relationships through which identity, behaviour, habits and beliefs accompany these relationships. The reality is that “*the urbanites maintain their psychological balance through specific personality alterations that produce a distinctively urban type of individual*” (Fischer, 1976: 177).

The challenge confronted by the senior citizen population is the constant struggle of creating personal identities that conflict with the typical stereotypes that is portrayed by society. The consequence of this struggle projects difficulty in engaging with senior citizens and shaping their livelihoods positively. Therefore, “*they fall outside the hierarchy of structurally available societal roles and thus beyond the conventionally role-based sources of moral worth and dignity that most citizens take for granted*” (Snow, 1987: 1339). The struggle of existence is to better adapt to the competition, in this case, the global urban world, until these groups of individuals are no more (Rapoport, 1974:65).

2.4. URBAN AGING AND CULTURE

Within the context of the global urban world, the disintegration of the city results in a disappearance of the social system, as well as the loss of city's cultural focal point (Mumford, 1977: 14). Therefore, the notion of urbanisation has set in motion the process of individuals constructing their own cultural content as a way to contest social and economic exclusion and isolation.

Redfield (cited in Castells, 1977: 78) suggest that culture is characterized through an urban society, a society that is centred around isolation, homogeneous, individualization and a small group with a strong sense of group solidarity. In the context of this dissertation, the senior citizen groups are those centred around an urban society whereby their rights and duties as individuals is not extensively considered and their behaviour is portrayed as a norm in society (Castells, 1977: 79).

Rapoport (1977: 3) postulates that while senior citizens groups adapt to the changing environment, the result is detrimental and critical. Unlike the rest of society, these groups whose culture and identity are marginalized both physically and mentally, reduces ones' ability to cope with high levels of stresses while inhabiting the current environment. Therefore, the need for an active sense of place and belonging, a relationship between the urban landscape and modes of human activity is paramount in the current urban environment.

However, Rapoport (1977: 3) further states that individuals behave in accordance with the type of setting or environment defined by that specific culture. Therefore, the environment provides "*cues for behaviour*" (Rapoport, 1977:3).

The urban form, together with its' social, spatial and temporal systems of the city responds to the social and cultural factors of the environment. Rapoport (1977: 248) identifies the process of clustering of individuals resulting from their choice of habitat and environmental quality. The importance of this process is the product of moral support, continuous interaction and effectively adapting to the environment under the conditions of urbanism.

In traditional African cities, the clustering process is pertinent in gaining a strong support system. These cities are divided into segments of extended family members, consisting of a hierarchy of houses, neighbourhoods and clusters of neighbourhoods, all related to one another (Ojo cited in Rapoport, 1977: 253). The arrangement of these spaces assists senior citizens with their daily needs through their own form of services and support, acknowledging their importance to the community. In African homesteads, often elderly senior women are active in their role of agriculture, events of birth and puberty, marriage and death (Brindley, 1982: 2). Despite their age, older women are portrayed as a source of knowledge through their wisdom and cultural skills acquired over the years. Their values and citizenship are active, grounded and engaged in a community that successfully integrates the

elderly women, rather than disregard them. It is through culture that “remains orientated towards the past and to values which coincide with the needs and disposition of the elderly” (Brindley, 1982: 2).



Figure 11 - An elderly woman in the Zululand homestead carrying out her role as an active member of her community.

Source: <https://zululandobserver.co.za/107356/vegetable-farmers-hit-hard-by-drought/>

Agriculture is a prime source of boosting India’s economy and the elderly women in India are the most productive in agriculture and farming. Swaminathan (cited in Singh, 2013) that women in India first initiated the science of farming dating back to C. 3300 – C.1300 (Khyade and Khyade, 2016: 3). In rural India, it is said that 84% of women are active in the agricultural sector and activities involve sowing, irrigation, harvesting, plant production, fertilizing and livestock and farming production (Khyade and Khyade, 2016: 3). Further to this, the co-relationship between women and the environment can be seen through the culture of “agricultural fertility in ritual and practice” (Khyade and Khyade, 2016: 5). These rituals celebrate the importance that elderly women have in agriculture and fertility and has been globally recognized, therefore embracing their knowledge and cultural value.



Figure 12 and 13 represent the hard-working women of India and their role of harvesting and farming, depending on agriculture for their livelihood survival.

Source: <http://agropedia.iitk.ac.in/content/role-indian-women-agriculture>

2.5. CONCLUSION

This chapter explored the understanding of the concept of culture and identity amongst the senior citizen population through urbanism in the developing world. Identity and cultural evolution is more likely to evolve further, and the consequence of this process will either appear to be an enrichment to some but at the same time, a decay to others (Rapoport, 1974: 69). Culture is understood as a way of life and each individual of a particular society absorbs the unique characteristics of culture (Idang, 2015). Culture is seen as an adaptive system being passed on from the elder generation to the younger generation. It is important to conserve ones' native heritage, tradition and value which can be knowledgeably beneficial to individuals in the developing world.

Therefore, culture and identity are the most vital elements of liveability but, how can the urban landscape and built environment contribute to the values of the quality of life of these marginalized groups?

CHAPTER THREE - RESILIENCE AS A RESPONSE BY SENIOR CITIZENS

3.1. INTRODUCTION

Modern cities of the urban world are the sites for social exclusion toward the senior citizen population. Within these cities exists those who are attempting to survive in these urban spaces through the notion of resilience and resistance. The intent of the chapter will focus on concept of citizenship and explore who cities belong to. It also aims to identify ways in which senior citizens achieve methods of survival while contesting the process of social exclusion and claiming lost space.

3.2. THE RIGHT TO THE CITY

Cities are one of the key generators in which new norms and identities have been constructed, at various times and places and under very diverse conditions (Sassen, 2012). However, the challenges that cities face today are the urban and rural differences such as racism, governmental wars, poverty, low educational, occupational and income levels. These demand that the right of citizens be exercised and fought for or “*the right to the city does not abolish confrontations and struggles. On the contrary!*” (Lefebvre, 1973: 195).

Lefebvre (1991) suggests that the perception of the city is a collective artwork of inhabitants actively shaping the future of the urban environment and that everybody has the right to utilize spaces within the city. The social functions of space such as social interaction, trumps the economic value of space. Thus, establishing who the city belongs to. Lefebvre’s approach explores the relationship between the political power of cities and their inhabitants, assessing the demand for those who are marginalized and previously disadvantaged.

Lefebvre’ notion of the perception of space consist of 3 categories of space fused together, creating all aspects of urban life.

1. Perceived space: can be defined as spaces one encounters within the built environment daily. It is these spaces created by architects and planners.
2. Conceived space; refers to spaces in which the inhabitant filters and conceptualizes, constructing a mental structure and image of the environment.
3. Lived space; this measure creates the interrelationship between conceived and perceived space, unfolding the everyday experiences of life of the urban dweller and therefore “*represents a constituent element of social life*” (Lefebvre in Purcell, 2002: 4).

The most appropriate representation that is pertinent to the notion of the right to the city in this dissertation is that of ‘lived space’. For Lefebvre (2002), the importance of this space accompanies the urban living experience by those individuals participating in their daily routines in the spaces of the city. Thus, perpetuating social and spatial rights as an outcome for survival. Therefore, as Lefebvre states, “*social relations and lived space are inescapably hinged together in everyday life*” (Lefebvre in Purcell, 2002: 4). Levebre (2002) states that every urban dweller should be empowered both socially and spatially and the relationship between government and their citizens determines the outcome it will have on its’ citizens. For some, the urban experience may be supportive in allowing for growth, sophistication and higher education but for others, aspects of the urban experience hinder physical and technical skills, resulting in unproductive urbanites (Fischer, 1976: 73). Thus, shaping every single experience of every single individual in the urban city.

Purcell (2002) suggests that Lefebvre’s concept of the right to the city is not one of reform or a tactical resistance. Instead it is “*radical restructuring of social, political and economic relations, both in the city and beyond*” (Purcell, 2002: 4). Purcell’s (2008) notion of the right to the city is accompanied by two most influential rights for urban dwellers:

1. The right to participation: This is a right in which urban dwellers are able to participate in decisions that assist in the production and reproduction of urban space. This includes engaging with those who are marginalized and excluded from society. Hence, in this research, engaging with the senior citizen population is vital in conceptualizing the right to participation.



Figure 14 - Various transitional spaces along Brookline, Massachusetts have been modified to suit the needs of senior citizens. An example of turning a disabling environment into one that actively supports the aging process. This form of urban practice is a way to respond to the elderly, “letting them know” for a transition as they walk.

Source: <https://munsonscity.com/2012/05/21/urban-design-for-the-elderly/>

Handler (2014) states that the World Health Organisation of 2006 developed an Age-friendly framework for socially engaged urban action of senior citizens. This entails senior citizens actively participating in the production of urban space within cities. This framework primarily focuses on the elderly as active citizens where the notion of social inclusion, functional mobility, health and social care as well as understanding the experience aging of senior citizens in the developing world. It enables designers, architects, urban and town planners to design beyond the scope of aged-care facilities into a more participative engagement with senior citizens' relationship to urban space (Handler, 2014: 18).

2. The right to appropriation: This includes the rights of urban dwellers to occupy and access urban space but more so, creating and developing space that meets their needs, especially those excluded from these processes. These rights, when conceptualized within the construct of this dissertation connect to those that are marginalized and excluded, more specifically, that of the senior citizen population. Particularly with the design of public urban spaces, street furniture such as benches is a concise representation of how this type of design fails to meet the needs of senior citizens. However, The Newcastle University in the UK, together with Design Network South and Voice North, designed the 'vitality bench' specifically for senior citizens in public spaces. This highlights the functionality in design for the elderly that supports their needs.



Figure 15 is an example of the 'vitality bench' that corresponds to the ergonomics of senior citizens. This is specifically designed from wood or plastic with an insulated arm rest. As opposed to Figure 16, which is a typical generic stainless steel public bench design.

Source: <https://twitter.com/designnetnorth/status/860237980006584322>
<http://www.castiron.co.uk/gardenbenches-parkbenches.php>

Harvey (2008) postulates that the right to the city includes a relationship between the individual and the rest of society, emphasizing that the right to the city doesn't belong to a single individual but rather by all a collective society who occupy the spaces within the city. But applying this notion poses considerable challenges emphasizing the concept of citizenship amongst senior citizens. Brown (2013: 3) postulates that the nature of citizenship correlates to social and spatial rights but the

foundation of citizenship focuses primarily on the concept of residence. Brown (2013:3) further argues that the concept of residence sets in motion the difficulties for the senior citizen population, depriving them of the role of citizens and neglecting their social status and key drivers for survival. Thus, broadening the question of who does the city actually belong to and who has a right to the city if one doesn't have a home.

What we can extract from this literature is that the notion of rights applies to those facing social exclusion, namely that of senior citizens. These rights include access to transport, housing, public space, income opportunities, access to health services and participation and integration in an age friendly environment. But those senior citizens residing in aged-care facilities are not seen as active agents of the urban environment (Tuncer, 2015:23). The framework for participation, integration and appropriation, forming part of the social, political and architectural structure fail to address the needs of senior citizen participation in the context of a right to the city. However, it can be argued that from the concept of a right to the city, everyone has a right to a decent form of living in an inclusive city. Therefore, providing participatory opportunities for senior citizens to exercise their rights.

Brown (2013:4) states that public space is a clear representation of productive space. To further support Brown's statement, the informal trade markets and street trade are significant examples of utilizing public urban space as a means to thrive and survive. *"Public space is the focus of an inherent and ongoing struggle over rights, as people compete over the shape of the city, access to the public realm, or rights to citizenship"* (Mitchell cited in Brown, 2013: 4).



Figure 17 - An example of the elderly citizens utilizing public space through informal trade markets at the Durban Beachfront.

Source: <https://za.pinterest.com/pin/469007748667991006/>

The Pensioner's Playground at Hyde Park, London considers the rights of senior citizens to utilize public space through supportive facilities that respond to their health needs. By organizing these various activities and recreational gym area in urban public space, the true purpose is to enhance a significant part of senior citizens' lives, creating a more fun aging experience. In the current developing world, senior citizens have little access and are unable to utilize much public space. Therefore, this “*alternative facility opens up a new dialogue around public provision for older age*” (Handler, 2014: 60).



Figure 18- The Pensioner's Playground

Source: <http://www.dailymail.co.uk/news/article-1280111/MICHAEL-WINNER-A-playground-pensioners-They-death-wish.html#ixzz5GndRcOoE>

Fischer (1976) states that the differentiation between the social structure and the lives of individuals living within that structure weakens social bonds. This division contributes to the growing gap between the senior citizens and rest of society of the city, loosening social ties. Brown (2006) therefore postulates that social spaces place individuals in the urban environment in which they develop a sense of identity and belonging, engaging with their environment.

To conclude, it is assumed that the rights of senior citizens within the city are being ignored and neglected. The right to appropriation and participation locates senior citizens within the physical spaces of the city. The exponential growth of globalization has encouraged the senior citizen population to become resilient towards social and economic exclusion.

3.3 CONCEPTUALIZING SOCIAL EXCLUSION IN THE URBAN ENVIRONMENT



Figure 19 - Depicts the notion of isolation and exclusion, creating extreme loneliness and depression amongst senior citizens

Source: https://en.wikipedia.org/wiki/Aging_and_society

“Social exclusion of older persons is a complex process that involves the lack or denial of resources, rights, goods and services as people age, and the inability to participate in the normal relationships and activities, available to the majority of people across the varied and multiple domains of society. It affects both the quality of life of older individuals and the equity and cohesion of an ageing society as a whole.”

Levitas et al. (in Walsh et al., 2017, p. 83)

Levitas (cited in Scharf *et al*, 2001: 307) identifies two different influential elements contributing to the notion of social exclusion:

1. Participation and integration: Within the rapid globalising framework of modernity, participation and integration into society measures beyond employment but rather encompasses the structure of social networks. The notion of exclusion of participation and integration is as a result of senior citizens with less mobility and in neighbourhoods with no social support (Drilling et al, 2017: 11). These environments offer less opportunity for social integration, leaving senior citizens as a disadvantaged group. The result of this as postulated

by Fischer (1976) is that the state of urbanism influences the urban psyche and therefore, manifests social differentiation amongst individuals in the heterogeneous city.



Figure 20 – In the utmost circumstances of exclusion, the elderly homeless construct their very own shelters in urban spaces of the city, claiming their spatial rights to the city.

Source: <https://www.youthkiawaaz.com/2009/07/old-age-problems-india/>

2. Spatial segregation: Badash (1996: 2) suggests that urban planning in developing countries result in individuals with similar attributes cohabit in areas that are more favourable in relation to their living conditions. Thus, establishing a sense of protection, a similar understanding and identity. However, the desire for these attributes in the current urban world posits a challenge for those citizens marginalised and excluded.

“The spatial manifestations of exclusion may also concern the way in which people’s familiar attachments are undermined with urban, and perhaps more especially, global change”.

(Levitas in Scharf *et al*, 2001: 304).



Figure 21 & 22 clearly depicts the harsh reality the everyday elderly endures as well as the disconnection and failure from the role of the built environment. The unsuccessful integration of senior citizens is visible in everyday sights such as this.

Source: <http://montrealgazette.com/news/local-news/quebecs-eldercare-challenge-making-montreal-more-friendly-to-seniors>

Doxiadis (1963: 43) points out that the rate of economic development has been increasing exponentially. With this accelerated rate, the demand for more and better building designs is at a higher growing rate than that of wealth and the economy. Thus, expanding the gap between the population and architecture itself. Furthermore, Doxiadis (1963) states that as architecture becomes more apparent, the style of architecture is now defined by both man and machine and not just man itself. The effects of this result in the loss of public life and public spaces. It can be assumed that these public spaces are now the sites for economic development and growth and as a result, spaces such as malls, casinos and clubs promote social interaction but eliminate outdoor social spaces. However, the arrangement of these urban spaces promotes separation and exclusion through planning and urban design.



Figure 23 – Gateway shopping mall, Durban, South Africa. A symbol of public life, focussing on leisure and those who can afford to visit these spaces.

Source: <http://www.redtudor.co.za/room/water/>

It is evident that space has a major role in the inclusion and exclusion of the senior citizens and can be assumed that social exclusion and segregation cannot be analysed without spatial exclusion and segregation (Mandanipour in Scharf et al, 2001:308).

Correa (1989: 48) states that society, designers, planners and architects are oblivious to the notion of exclusion. It is us who believe that senior citizens do not have adequate facilities and therefore, we should immediately design these facilities, but the harsh reality is that this group suffer a losing battle with the processes of social exclusion. Correa (1989) postulates that the solution to creating and finding a new landscape should start by examining the entire structure of the city, from living to lifestyle patterns, road networks, schools, services and transportation systems. It is through this examination that we can become cognizant of how one can “*rearrange the scenery*” (Fuller in Correa, 1989: 24).

3.4. RESISTANCE AND URBANISM

“Perhaps we are paying too much attention to the physical and economic aspects of a city and not enough to its mythical, its metaphysical, attributes. For a city can be beautiful as physical habitat – with trees, uncrowded roads, open spaces – and yet fail to provide that particular, ineffable quality of urbanity which we call ‘city’ “.

(Correa, 1989: 76)

As previously expressed, the concept of urbanism is the reality that the new modern landscape is a reminder of the exclusions both spatially and physically. Karpf (2015) questions the inhospitable role of the city toward the aging process and states that cities are designed for the myth of an average person – one with total independence, with no disabilities and one is completely mobile. Correa (1989: 79) supports this statement by suggesting that a paradox exists in the urban environment. One where the *“environment improves as a city but decays as physical plant”* (Correa, 1989: 79). Thus, becoming a “mythical” city. A city that clouds our views of a negative urban expression.

In China, the levels of transport in the urban environment has been increasing as the city gets larger. Correa (1989) states that as the image of urban China grows, travel distances grow, and the density of cross-country traffic is immense. Thus, encouraging the use of public transportation such as busses, taxis or trains. However, this does not impact on the active cycling trips of senior citizens to work who are resistant to the negative stereotypes toward them by the rest of society and resistant to the changes of the structure of the landscape in the Third World. The diverse transportation systems suggest a hierarchy of modes of transport implemented as the city grows.



Figure 24 – An elderly citizen cycling through the busy streets of China, against the mass density of public transport.

Source: <http://slumsofshaolin.blogspot.com/2006/06/riding-bike.html>

The informality of trade by street vendors in Thailand provides for more than half of the food for the country brought in by market stalls or street push-carts (Gordon and Shannon in Bronnet, 2016: 30). Despite the laws governing the operations of street vendors, in the context of resistance, senior citizens contest these laws as a means of livelihood survival strategies in the built environment.



Figure 25 - Is an example of the contestation of spatial rights as the elderly attempt to make a living along the busy sidewalks of Thailand.

Source: <http://designinquiry.net/contributions/makedo-street-vendors-vending-stalls-and-bangkok-urban-space/>

The growth of the urban world springs upon forces of a changing environment pressed upon its urban dwellers. Individuals choose to either accept these changes or to resist against them. Villagomez in Hou (2010) states that citizens of the city have lost their critical sense of what represents good urbanism and the detachment between the built environment and occupants is detrimental to the development of cities. Therefore, “*we must relearn how to look more carefully at the existing urban environment and understanding its potential and limitations*” (Villagomez in Hou, 2010 p.82)

The Warwick Junction Precinct in Durban, South Africa is a prime example of the notion of the resistance of urbanism. In January of 2009, the City Council proposed to build a shopping mall within Warwick Junction. Private property interests, as well as the notion of modernism ahead of the 2010 Soccer World Cup are factors that worked against the livelihoods of these informal traders. The City Council aimed to fast-track the proposal, with construction commencing in June. Informal traders at Warwick argued that planning approaches excluded them from these processes and is in contrast to previous approaches inclusive of traders in the urban fabric. Therefore, threatening their livelihoods in the precinct.

The intention of the shopping mall proposal was unsuccessful due to the resilience of the informal traders. Upon analysis, the Economic Development Department of Durban Metropolitan Council found that there are 19301 street traders within Durban and over 10 000 traders of whom operate within the inner city itself. Upon further analysis, 4065 traders were found situated in and around Warwick Junction. 59.3% of traders were women, with an income generated between R60 – R102 a week (Skinner, 2010).

Over the years Warwick Junction has become a relevant site for informal traders, shaping their working environment and by the same process, contributing to economic growth of Durban. The opposition of the proposal of the shopping mall has allowed for the development of the Warwick Junction Project which demonstrates inclusive urban planning involving street traders and in turn, enhancing the cityscape. As Sandercock (1998) points out that inclusive urban planning is a *“sensitivity which can help citizens wrest new possibilities from space and emerge themselves in their cultures whilst respecting that of their neighbours and collectively forging new hybrid cultures and spaces”* (Sandercock, 1998: 10).



Figure 26- Collaborative planning has resulted in the natural development of the Warwick Junction Precinct, combating the social exclusionary processes and thus, securing the livelihoods in the informal economy.

Source: http://www.uia2014durban.org/media/media_kit.htm

Resistance is the ability to remain unchanged when confronted by different factors causing disturbances and the capacity to keep ones' identity in tact (Derose and Lang, 2014: 2). In the context

of the senior citizen population, it is reality to retain their livelihoods, adapting to the developing environment.

3.5 CONCLUSION

There is a complex relationship between the senior citizen population and rest of society that exists in the developing world. The senior citizens plights are often hidden and planners, advocacy groups and governments should address the notion of exclusion socially and physically in order to develop more inclusive and positive roles in the urban development, rather than view the elderly as liabilities and problematic to society. What is evident is that urbanisation is here to stay, and it is up to the architect and urban planners not to ignore this phenomenon, but rather attend to it as well as they can for all of humanity (Doxiadis, 1963: 69).

CHAPTER 4 - PLACE-MAKING IN THE URBAN CONTEXT

4.1 INTRODUCTION

The previous chapter focussed on the social and spatial exclusions of senior citizens by the context of the built environment and by this process, the development of the concept of resistance. As it stands, the primary principle that architecture has served is the machine and not man. However, in order for a liveable environment on a human scale, urban spaces should be human in all aspects of design (Doxiadis, 1963: 155). The following chapter will explore the concept of a mythical city life and within this city, address the notion of architecture in assisting toward an age-friendly environment for senior citizens.



Figure 27 - New York City depicting a conceptualized idea of what the image of city life entails

Source: <http://black-and-whitephotos.blogspot.com/2012/12/new-york-city-buildings-photography.html>

4.2 THE IMAGE OF CITY LIFE

“The city never exists in a fixed, eternal state. The city and the cultural landscape in general - i.e. anything which shows evidence of human intervention - are material manifestations of people's lifestyles and values, and because these change continuously, so does, and so must, the city”
(Welsh, 1996: 4)

The expression of city represents constant growth, patterns of development, employment opportunities and high-rise buildings. For Correa (1989: 81), these notions of wealth are centered around two elements that drive modern civilization; an economic system driven by power and

secondly, at the core of these decisions of power are political leaders. These elements present in the built form never created great architecture or images of the city, but rather ideologies of what a city should be. What is evident in the Third World today is the evolution of the environment. That being well-designed eco-systems, different forms of recycling, improved technology and a fitting lifestyle with the current environment (Correa, 1989: 115). However, the co-existence of globalization and machine has impacted drastically on the spread of the patterns of living among individuals of different regions, countries, cities and suburbs. Thus, conceptualizing negative spaces through architectural design (Doxiadis, 1963: 56). Doxiadis (1963) further states that the notion of globalization has forced man into this modern, industrial form of living rather than his free, rural livelihood. Therefore, *“forcing us to seek new solutions in architecture in order to save man from the breakdown with which his new ways of living are threatening him”* (Doxiadis, 1963: 57). An example to support this theory is that of an agricultural farmer now having to adapt to the modern lifestyle of an industrial worker. As a result, the US has lost 70% of independent farm workers in the last 15 years (Christison, 2000).

Welsh (1996:5) postulates that the slower the process of the evolution of city, the city maintains a better sense of place as well as a continuous feeling of security and belonging to its’ urban dwellers. Further to this, providing a degree of stability, allowing individuals to orientate themselves in a changing environment. To support this, Norberg Schulz (1989) states that the sense of belonging and existence is an integral part of place-making. To develop an existence, urban dwellers must be able to orientate themselves in the context of the urban environment and identify themselves with the environment (1980: 19).

However, with the rise of urban development, change in the environment occurs relatively rapidly. Therefore, maintaining a sense of belonging becomes more and more difficult. This is pertinent in the context of senior citizens as their environment can be threatened by factors such as inaccessibility to public transport, fear of street crime, the immense amount of vehicular traffic, deterioration of mobility, safe pedestrian access and public and housing facilities lacking the design needs of the elderly (Smedley, 2012). Exacerbating these factors are society’s negative stereotypes and attitudes toward senior citizens, impacting on the sense of belonging. Thus creating an environment which is abstract, foreign, alienating and psychologically disorientating (Freseura in Welsh, 1996: 5).

Munson (2012) states that society does not see aging as a normal condition but rather a disability, one which the individual is primarily responsible for. However, the principles of universal design argues that individuals are disabled by the environment itself, both psychologically and physically (Munson, 2012). The built environment is effective on senior citizens’ vulnerability and health and is conceptualized through urban design characteristics. These characteristics include pedestrian sidewalks, traffic lanes, urban and public spaces which all influence an integrated physical and social

setting for senior citizens. On the contrary, the emotional sense of security and satisfaction as well as the structure of a communicative sense of planning, is absent in the current physical fabric of the environment (Lynch: 1960: 5). Therefore, inflicting an insufferable strain on those who were once familiar with the environment.



Figure 28 - Often the smallest features of urban design can result in the biggest constraints for senior citizens. A piece of uneven tactile pavement supposedly designed to assist senior citizens in transitional spaces is more destabilizing as a result of poor urban design.

Source: Handler, S, 2014, An Alternative Age Friendly Handbook, UK Urban Ageing Consortium, The University of Manchester Library.



Figure 29 – Contemporary cities of today present their machine – like materials such as concrete, steel and glass (Pallasmaa, 2005: 52). For senior citizens, the expressions of these materials are cold and unavoidable, representing a sense of detachment and alienation from urban space.

Source: <https://theknowledgeexchangeblog.com/tag/older-people/>

Kevin Lynch (1960) questions the perception of city form and its' impact it has on the many inhabitants it houses. Lynch (1960: 74) determines that the physical environment is a product to the mental pictures formed by individuals through their experiences in the city, both positive and negative. Further to this, the notion of disorientation coupled with anxiety and fear in the chaos of the

modern city, reveal a distinct link between the built environment and ones' sense of security and balance.



Figure 30 – This is an example of poor universal design, symbolic of an unsupportive urban environment. The appearance of this represents accurately the difficulties that senior citizens endure, whilst attempting to navigate through urban spaces. Thus, creating a fear of falling and feelings of insecurity and uncertainty of space. These environments, which are not adapted to the needs of senior citizens, are one of the primary causes of social exclusion.

Source: <https://www.retirement-living.com/examples-of-poor-design-for-wheelchair-ramps/>

What is evident is that senior citizens, within the structure of the complex environment, find it difficult to perceive a sense of place as well-knit together and ordered. In order to facilitate ageing in place, it is important to understand the built environment, its' effects on senior citizens and its' relationship with senior citizens. Norburg-Schultz (1980: 18) states that despite the rapid change in the environment, the sense of place doesn't necessarily need to change or disappear. Therefore, the role of architects and urban planners is to "*manage change in the urban environment whilst protecting or even enhancing their particular place*" (Welsh: 1996: 16). This in turn creates a sense of stability in the environment and senior citizens.

4.3 THE AGE FRIENDLY ENVIRONMENT

“...It is no longer possible to differentiate between the important and the unimportant parts of a city or between its monumental and non-monumental sections; for cities today are characterized by an all-inclusive conception of architectural space”

Doxiadis (1963: 79)

Doxiadis (1963: 79) states that with the rising tide of urbanism, architecture should be justified by the way in which it focuses on communities, regions and countries; developing an interest in humanity as a whole.

Gasset's (2014) framework of 'living' poses the reality of a product of existence, with ones' very own circumstances in a world of the here and now (Gasset, 2014: 6). For Pallasmaa (2005: 6), the very essence of our lived experiences in the world is the significant sensory mode responding to memory, integration and imagination. Further to this, Pallasmaa (2005) states that the fundamental quest for architecture is to create the experience of belonging in the world and enhance our reality of the world, instead of creating mere symbols of art.

Handler (2014: 25) suggests that the process of an inclusive design for the senior citizen population goes beyond the physical fabric of the built environment and focuses on the experiences of public space which senior citizens experience through the process of aging in the current urban environment. Architecture has the impact to strengthen ones existential experience and through its' elements of design, heightens ones sense of emotions, behaviour and uses, as well as the experience of the self (Pallasmaa, 2005: 41).

The importance of the value and quality of space for senior citizens expresses their well-being, physical and psychological experiences and a sense of belonging in their environment. The spatial aspects of architecture should incorporate elements which influence the way senior citizens experience space, together with its form, function and aesthetics (Areks & Weidema, 2011: 3).

Through the aging process, the sense ignites the feeling of security and harmony. Warm colours such as green and blue reflect a sense of security and feeling of being restful and calm, whereas the colours red and yellow both reflect activity (Areks & Weidema, 2011: 5). The importance of various points of rest allow for senior citizens to experience comfort and a state of relaxation. Therefore, good architecture can be generated through a balance between activity nodes and rest nodes.

The sense of sight is grounded in physiological, perceptual and psychological facts (Pallasmaa, 2005: 39). The pressing issue of detachment and alienation from the senior citizen population to the rest of society is restricted by the experiences of belonging to the physical realm. Pallasmaa (2005: 42) believed that spatial experiences in architecture would not be possible without touch. The relationship

between the skin and the environment defines spatial depth, materiality and distance (Pallasmaa, 2005: 42). Thus, making us aware of what exists all around us. However, Pallasmaa (2005) also believed that architecture of the current world has detached itself with the human scale, language and body and has lost its elements of tactility and materials constructed for the human touch. Therefore, becoming seemingly unrealistic and immaterial (Pallasmaa, 2005: 31).

Gasset (2014: 5) believes that the need or desire to exist socially or privately involves everything we do to be in service of this program of existence. Much like architecture, each architectural space should involve the needs of individuals, inclusive of the built environment.

The works of Nomad Architects in Hong Kong expresses the notion of social integration between the community and senior citizens in order to create a lived spatial experience. Towards the design of a communal elderly centre, Nomad Architects accommodated useful spaces designed for both the elderly and the community.



Figure 31 – An Elderly Communal Centre in Hong Kong. This design aimed at conceptualizing the connection between senior citizens and the built environment, initiating the interaction between young and old and thus, reducing loneliness and isolation amongst senior citizens.

Source: <http://www.n-o-architects.com/encircling-the-root>

This building acts as a platform to create a bond between all generations of the community. The ground floor accommodates for interaction and engagement through various social spaces and the first floor is primarily designed for senior citizens overnight stay. The building makes use of maximum natural lighting coupled with bamboo trees to control the amount of natural lighting, reducing the harsh brightness for senior citizens as they overlook the centre courtyard. The use of local, natural

elements enhances the buildings' sense of place, influencing the connection between individuals and the built environment.

A multi-use craft room encourages the interaction between senior citizens and the rest of society. Senior citizens are able to show off their skills of calligraphy writing, storytelling and carpentry classes. A strong sense of culture is experienced and understood between generations through traditions of Chinese Opera and teaching of traditional medicinal healing at a Chinese Medicine Clinic. These spaces are primarily designed to encourage active participation and as stated by Booth in Pallasmaa (2005: 32) *“nothing gives man fuller satisfaction than participation in processes that supersede the span of individual life”*.



Figure 32 and 33 - Is an example of the role of architecture enhancing the built environment through built form, acting as a catalyst in promoting various activities for both the younger and older generation.

Source: <http://www.n-o-architects.com/encircling-the-root>

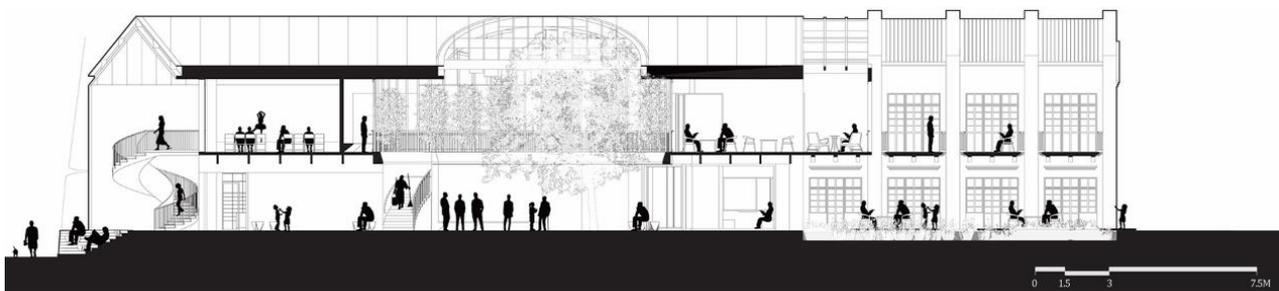


Figure 34 – A cross section through the Elderly Communal Centre depicting the openness and flow of movement through public spaces on the ground floor and the privacy of the communal area on the first floor.

Source: <http://www.n-o-architects.com/encircling-the-root>

Particularly within the African context, what is evident is that urban development excluded the socio-spatial context of inclusion of those senior citizens attempting to make a living through leftover spaces of the urban landscape and attempting to keep the cultural diversity of South Africa alive. Despite the absence of architecture, local arts and crafts depict a cultural character and identity for artists allowing them to express the realism of their roots.

Cape Town artist, Faith 47, explored the cultural diversity of Warwick Junction and aimed to redefine the local environment through the initiative of artwork along the structure of the bridges above Warwick Junction. The theory of critical regionalism, together with the notion of integrated place-making has been applied as these murals represent particular individuals trading and residing at Warwick, from the Traditional Medicine Market to the Lime Market. The focus aimed at capturing and celebrating the essence of culture and identity (Madihla, 2014). What this meant for the informal traders at Warwick was a visual and personal representation of an intimate and culturally functional space, evoking a sense of memory, inclusion and cultural expression through their traditional street trade. Faith (2014) expresses that this form of street art and architecture creates power and character through its style and textures. Thus, emphasizing the importance of the variety of markets at Warwick.



Figure 35 – The Warwick Junction street art representing the notion of freedom of expression and movement as well as the promotion of citizens to redefine their space in the urban environment.

Source: <http://www.graffitisouthafrica.com/interviews/faith47-in-durban/>

Pallasmaa (2005: 37) states that in the current global world, our sensory experience and quality has slowly diminished. Architects such as Bjarke Ingels aims to restore and re-sensualise architecture through components such as materiality and touch, texture and inclusive space.

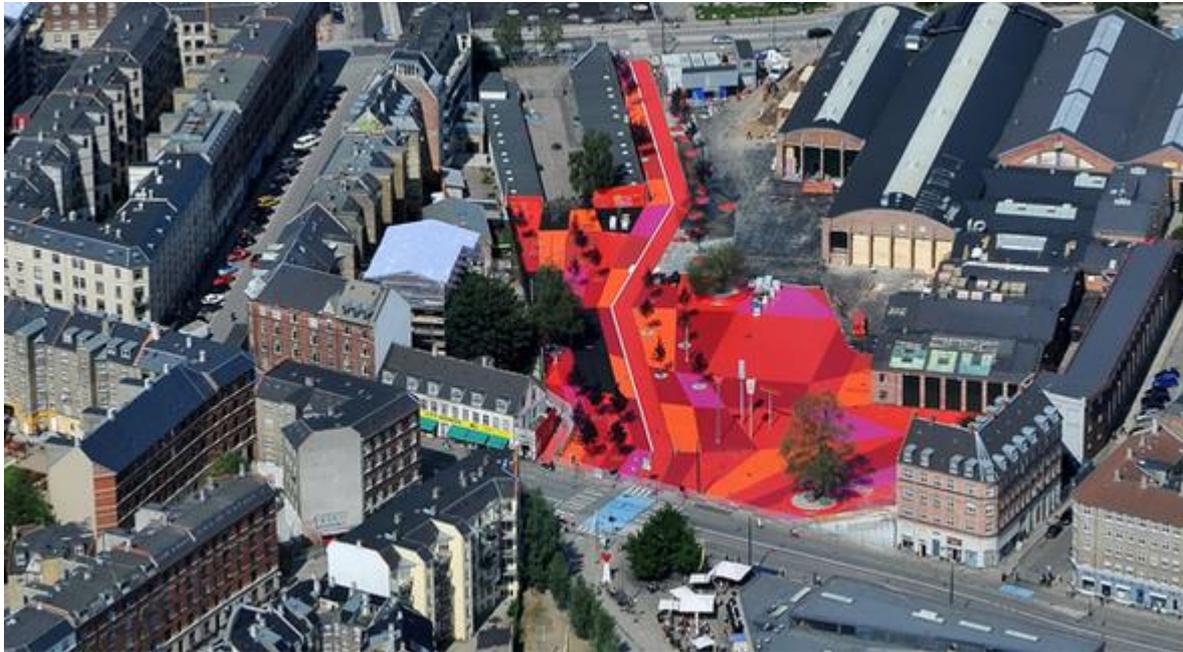


Figure 36– The Superkilen Park, Denmark, by Architect Bjarke Ingels

Source: <https://www.detail-online.com/article/three-colours-red-black-green-landscape-park-in-copenhagen-16511/>

The Superkilen Park in Copenhagen, Denmark represents a sprawl of urban elements from different countries. A mix of exercise equipment from the Muscle Beach in L.A, to sewage drains from Israel, palm trees from China and signage from Qatar, Ghana and Russia and sculptures from Spain and Palestine (Popp, 2013). Situated at one of the most socially challenged areas of Denmark, the 1.5 kilometer long strip of Superkilen aims to promote the notion of social inclusion and engagement of urban dwellers through a mix of colours, public art, public spaces and landscape design. Through these elements of design, various identities and the character of Copenhagen are strengthened.



Figure 37 – Site plan showing different zones of Superkilen Park, graphically represented by its burst of colourful textures.

Source: <https://www.detail-online.com/article/three-colours-red-black-green-landscape-park-in-copenhagen-16511/>

The park is divided into 3 zones and colours – red, green and black, creating a vibrancy of scenarios every day. The red zone represents a cultural, market and sporting node for all age groups. The black zone represents the idea of an open living room in the middle of city life. Street furniture from Turkey and plants and trees from Japan emphasize the importance of cultural engagement. The green zone aims at promoting a landscape designed for children and families including various activities such as playgrounds, green lawns for relaxation and picnics, kids’ tournaments and matches.



Figure 38 – The vibrancy of the red sporting zone. This large central space consists of different gym equipment, inviting all age groups to engage in health and fitness activities.

Source: <https://www.detail-online.com/article/three-colours-red-black-green-landscape-park-in-copenhagen-16511/>



Figure 39 and 40 – The enjoyment of both young and old individuals, interacting with the urban environment, enhancing the notion of a lived spatial experience.

Source: <https://www.detail-online.com/article/three-colours-red-black-green-landscape-park-in-copenhagen-16511/>

The Superkilen Park represents the reality of ideologies toward social integration and facilitation of different age groups in the developing world, merging into one, coherent experience. The idea is to conceive an environment of different identities, celebrating diversity and unity amongst its inhabitants.



Figure 41 – The playful green zone with its shapes and surfaces moulded into a structure to accommodate for a pleasurable, relaxation zone.

Source: <https://za.pinterest.com/pin/165648092517888433/>



Figure 42 and 43 – The black zone weaves a multitude of culture and diversity from different countries into a holistic and unique experience.

Source: <https://www.detail-online.com/article/three-colours-red-black-green-landscape-park-in-copenhagen-16511/>

4.4 CONCLUSION

This chapter explored the way in which urban design and architecture, inclusive of design principles supportive of senior citizens and also reduced the effects of an unaccommodating physical environment. The various initiatives explored the notion of a right to the city, re-questioning spatial rights and redefining public space whereby the city is not just for one focus group but rather a shared space for the youth and elderly.

As the phenomenon of urbanisation serves the machine, architecture should serve the needs of the growing population for a better way of life. As postulated by Correa (1989: 73), in order to involve the organic nature of urban growth, planning professionals should understand the socialisation of society, not with a preconceived image but rather the actual real-life circumstances. Therefore, defining the proposals of the growth process as solutions within the Third World.

CHAPTER 5 - PRECEDENT STUDIES

5.1. INTRODUCTION

The following chapter will seek to explore the notion of an inclusive built environment for society, but more specifically that of senior citizens. The various precedent studies analysed explores the link between the social and the architecture of each building, which creates a holistic, liveable urban context.

By investigating this relationship between the two phenomenon, under the previously mentioned theories and concepts, the research may suggest ways in which the design of a Multi-Purpose Centre can accommodate senior citizens into more inclusive environments.

5.2 THE ROYAL FESTIVAL HALL, LONDON



Figure 44 & 45 – The Royal Festival Hall, London

Source: https://en.wikipedia.org/wiki/File:Royal_Festival_Hall_and_Shot_Tower_c1959.jpg

<https://www.southbankcentre.co.uk/about/what-we-do/history-southbank-centre>

5.2.1 BACKGROUND

The Royal Festival Hall, located at the Southbank Centre precinct in London, was originally built in 1951 as part of the festival of Britain. The Royal Festival Hall was the first public modernist building to be built (Lomhalt, 2017). The original concept of an ‘egg in a box’ was designed to protect the central core of the buildings’ acoustics of the auditorium, that being the ‘egg’. Whilst other urban public spaces such as markets, bars and restaurants housed and protected the central core.

Between the years 2005 and 2007, architects Allies and Morrison undertook the refurbishment of the Royal Festival Hall to allow for a more viable, accessible building layout for all users whilst preserving the auditorium space.

5.2.2 LOCALITY IN THE URBAN CONTEXT

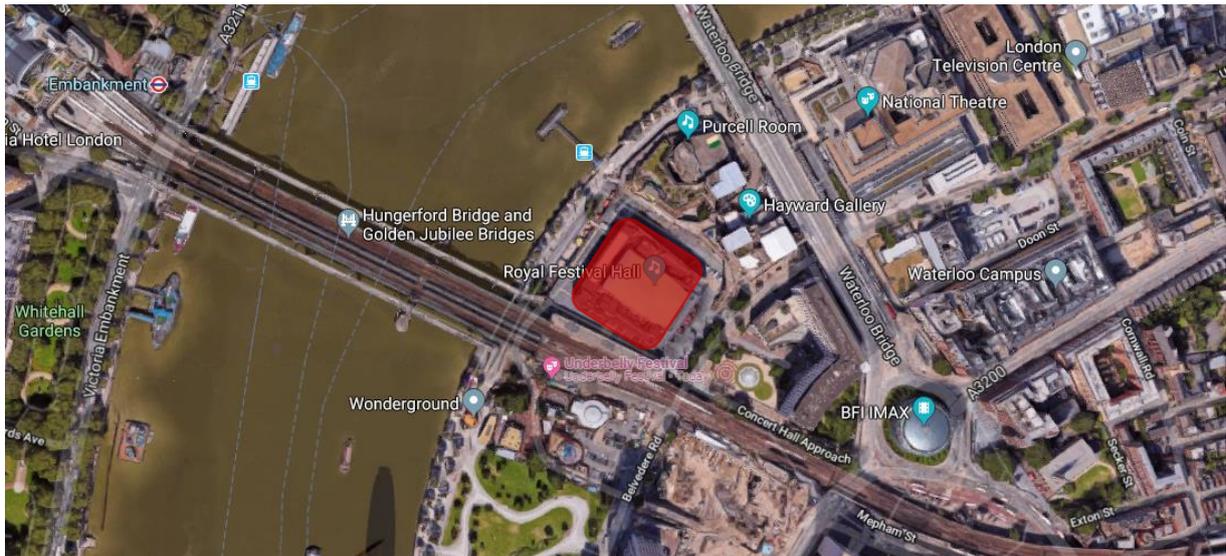


Figure 46 – Depicts the locality of the Royal Festival Hall in its urban environment

Source: <https://earth.google.com/web>



Figure 47 and 48 – The connecting component of the Waterloo Bridge and the Jubilee Garden foot bridge to the Southbank Centre Precinct, across the River Thames.

Source: <https://www.thestage.co.uk/news/2013/southbank-centre-predicts-400-visitor-increase-festival-wing-post-revamp/>

<https://now-here-this.timeout.com/2013/03/08/grand-plans-announced-for-southbank-centre-festival-wing/>

Located across from the River Thames, the Royal Festival Hall is surrounded by a public realm of spaces such as theatres, concert halls, entertainment spaces and recreational facilities. Located near a major transport node, the Hungerford Bridge and Golden Jubilee foot bridge acts as a platform of connectivity between the Southbank Centre and Playhouse theatre. Thus, facilitating the spread of socio-economic activities in and around the precinct. A mix of cultural diversity is portrayed on the

walkway between the Hall and Hungerford Bridge by a statue of Nelson Mandela created in 1985 by Ian Walters.

5.2.3 OBJECTIVES

The primary objectives of the refurbishment of the Royal Festival Hall is to allow for an opportunity of easy access for any user of the building, accommodating to the needs of the disabled and those individuals with a visual and hearing impairment. Therefore, removing and physical barriers within the urban and architectural fabric of the environment. With this structure of design, it is said that the Hall has had up to 250 000 visitors (Etherington, 2008). As stated by Doxiadis (1956: 56), the concept of addressing the needs of the many that require more services, allows for the social improvement of everyday life, rather than addressing the few that acquire the creation of architecture itself.

5.2.4 ARCHITECTURE AND URBAN DESIGN



Figure 49 – A cross section through the Royal Festival Hall representing the publicness and openness of different spatial arrangements as well as a mode of accessibility throughout the entire building.

Source: <http://www.leisureopportunities.co.uk/news/DD-launches-Skylon-restaurant/20093>

Norburg-Schulz (1989: 11) believes that the structure of place is determined by its landscape and character. The Royal Festival Hall has achieved this form of a lived spatial experience. The refurbishment of the project has reshaped the urban fabric surrounding the Royal Festival Hall. Queens Walk along the riverfront connected to the Hall via a line of shops, markets, bars and cafes (Etherington, 2008). The Golden Jubilee Foot Bridge, also aligned with shops and cafes allows for the public realm to filter into the precinct. These public spaces surrounding the Royal Festival Hall

were intended for all the urban population. Underneath the footbridge, shops and restaurants are linked to a large terrace in front of the Royal Festival Hall.

What is evident in the landscaping environment surrounding the Royal Festival Hall is the way in which senior citizens and the disabled are now incorporated into the thinking and planning of the urban environment. Rather than falling under the norms of marginalization, these groups are now more visible to the public image of urban life.



Figures 50 and 51 depicts architectural design drivers incorporating ramps as well as tactile surfaces assisting in the mobility of senior citizens. Therefore, creating an age-friendly urban setting.

Source: <http://www.google.co.za/amp/s/davisla.wordpress.com/2013/12/13/royal-festival-hall-southbank-public-realm-landscape-architect/amp/?source=images>



Figure 52 – The Royal Festival Hall and night time Markets along Queens Walk

Source: <https://www.timeout.com/london/things-to-do/southbank-centre-wintertime-market>

Architect, Robert Matthews (2001) states that whilst other buildings adopted the theme of Fascism in its architecture, the design of the Royal Festival Hall was not concerned with that approach but rather an approach that was more inviting to all its users.

This is done through its curved glass façade, large open internal and external spaces and various linkages from public urban spaces to the Hall itself. The large glass façade encouraged the use of as much natural lighting to filter into the building, whilst at night; LED lighting illuminates the River Thames. The facades of the Hall are presented in a bright white colour. These elements of ‘light’ contrast with London’s darkness of the post war era.

The roof terraces, with its indigenous planting assist in the cooling down of the building whilst café spaces spill out onto the roof terraces, for a pleasant view of the River Thames. Accessibility to these spaces and all levels of the building are accessed via a glass lift shaft or the original concrete staircases.



Figure 53 - A conceptual sketch by architect Robert Matthews of the envisioned Southbank Centre Precinct.

Source: <https://now-here-this.timeout.com/2013/03/08/grand-plans-announced-for-southbank-centre-festival-wing/>

With its bright interior colours and large open spaces, the Royal Festival Hall emphasized vibrancy and its spatial characteristics. To further support this, the design allows for easy accessibility of spaces, sound enhancements, hand rails and adaptable lighting, assistance for the most vulnerable citizens such as the blind, visually impaired and elderly, prioritizing their needs first and foremost. Thus, creating an environment accessible for their use.



Figure 54 & 55 – Significant consideration of architectural design can be visible through the interior spaces of the Royal Festival Hall. By this consideration, planners establish a means of identifying the actual needs of the user, addressing the possibility of inclusion.

Source: <https://decor10blog.com/design-decorate/decorating-ideas/new-southbank-centre-archive-by-jonathan-tuckey-design-utilises-a-1950s-shelving-system.html>

<https://www.maxfordham.com/assets/media/images/Projects/Royal%20Festival%20Hall/>

5.2.5 JUSTIFICATION

The study of this precedent is pertinent to this document as it justifies the notion of a right to the city through various design principles inclusive of social and spatial rights for citizens. Therefore, encouraging a sensitive and supportive physical environment. The different markets, both local and international represents a cultural diversity and order within the Southbank precinct. The iconic sculpture of Mandela as well as market stalls such as The Africa Utopia Market offers African creativity and culture along the streets of London. Whilst, various books and food markets represent the cuisine and culture of London.

Pallasmaa (2005: 32) states that the process of aging is unavoidable, and no individual is fully prepared both physically and psychologically for that reminder. However, the Royal Festival Hall represents a sense of spatial promises for the elderly and disabled. Therefore, the task of its architecture facilitates a positive experience of space, place and meaning.



Figure 56 – The different markets outside the Royal Festival Hall where the festivities of both local and international are celebrated.

Source: <https://myfoodhuntuk.wordpress.com/2013/06/05/real-food-market-at-the-southbank/>



Figure 57 & 58 – The African Utopia Market where the African culture and tradition is celebrated through food, dance and history.

Source: <http://www.londontown.com/LondonEvents/Africa-Utopia/e6c49/>

<https://www.southbankcentre.co.uk/blog/africa-utopia-market-meet-faces-behind-food>

5.3 THE WATERSHED, CAPE TOWN, SOUTH AFRICA



Figure 59 – The Watershed, Cape Town, by Wolff Architects

Source: <http://www.wolffarchitects.co.za/projects/all/watershed/>

5.3.1 BACKGROUND

The V & A Waterfront situated at the harbour of Cape Town was established in November 1988. Over the developmental time period of the city, the V & A Waterfront redeveloped into a global market with its primary focus on retail, commercial, trading, residential zoning and tourism (McGowan, 2014).

The old Blue Shed Craft Market was adaptively reused and repurposed in 2013. This is now known as the Watershed. The Watershed celebrates African Arts and Crafts and has created value in its existence, connecting with the city and the harbour.

5.3.2 LOCALITY IN THE URBAN CONTEXT

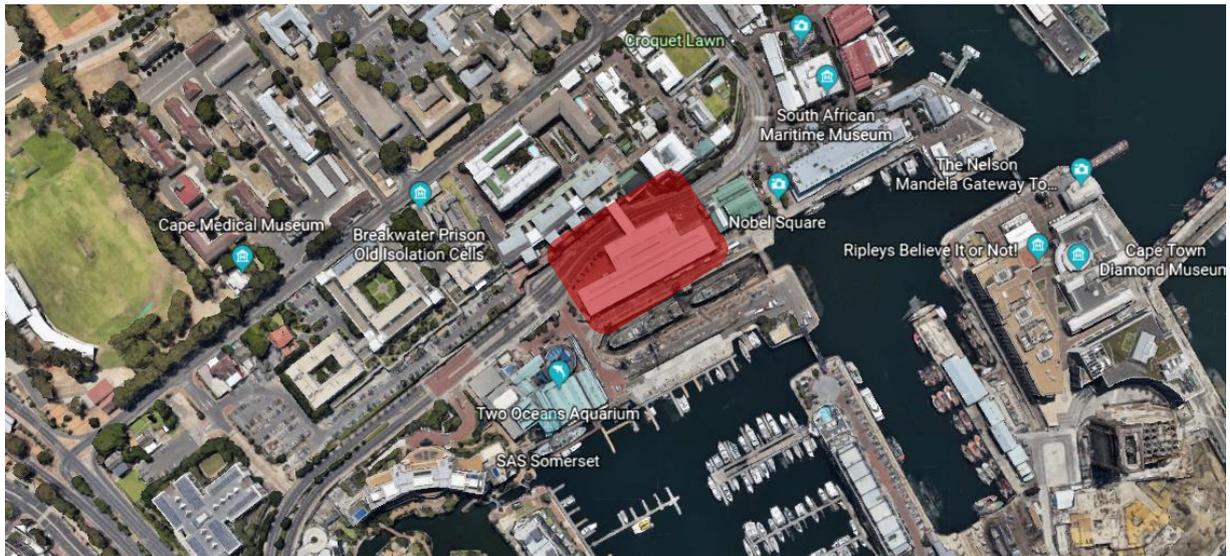


Figure 60 – The locality of the Watershed at the V&A Waterfront and the surrounding urban context.

Source: <https://earth.google.com/web>

Located central to Cape Town's Harbour precinct, the Watershed is surrounded by a hub of publicness and public activity with a diverse mix of traders, tourists and locals. Although reliant on private transport, the fluidity of pedestrians filtering into the site generates high volumes of accessibility and viability. The structure of the Shed is open on both ends, creating an image of a street market (McGowan, 2014). Thus, embracing the vital urban and visual connection between the shopping centre precinct and the clock tower precinct on one end and the aquarium, bus stop, the Graduate School of Business Campus and the newly developed BRT stops on the other end.

5.3.3 OBJECTIVES

As the notion of segregation persists in South African cities, the Watershed aims at restoring the vision of creating a better city (Hoberman, 2014: 58). The primary objective as stated by McGowan (2014) is to create a dynamic urban environment through built form. Thus, emphasizing the notion of place-making in the urban context. Furthermore, this refurbishment aimed at reconnecting the functions of old architecture to the new modernist approach, connecting time and space and thus promoting the interaction between individuals and providing spatial facilities for small, local businesses and traders.

5.3.4 ARCHITECTURE

The concept of this 3000sqm hub aimed at creating a sustainable urban element, hand in hand with the growing economy of the market. The street thoroughfare, as previously mentioned, offers a sustainable benefit to the surrounding urban context of the precinct. With its large glazing, the structure offers natural ventilation throughout most of the public space. The structures above the street thoroughfare are suspended from the steel structure to create a visionary, floating theme and openness on the ground level. The ground floor is open to local traders of arts and crafts representing their form of talent and creativity. The first floor offers a more international retail space. Thus, creating connectivity between the global and local. An exhibition space spanning over 2 floors showcases the talent of local artists as well as expanding to international talent. Keeping up with the principle of sustainability; existing floor trenches were used for electrical systems, LED lighting, universal access, water meter readings, repurposing the existing steel structure, non-toxic paint for drywalls and a recycling waste storage system has been implemented.

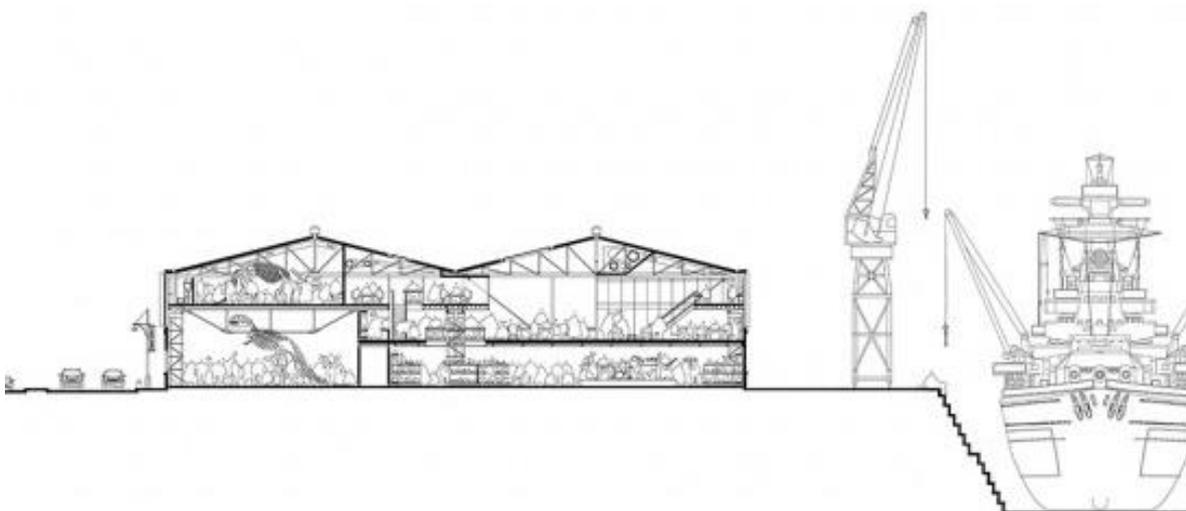


Figure 61 – A cross section through the Watershed. What can be seen is the buildings’ relationship to the harbour and the variety and diversity of different activities within the structure.

Source: <http://www.wolffarchitects.co.za/projects/all/watershed/>

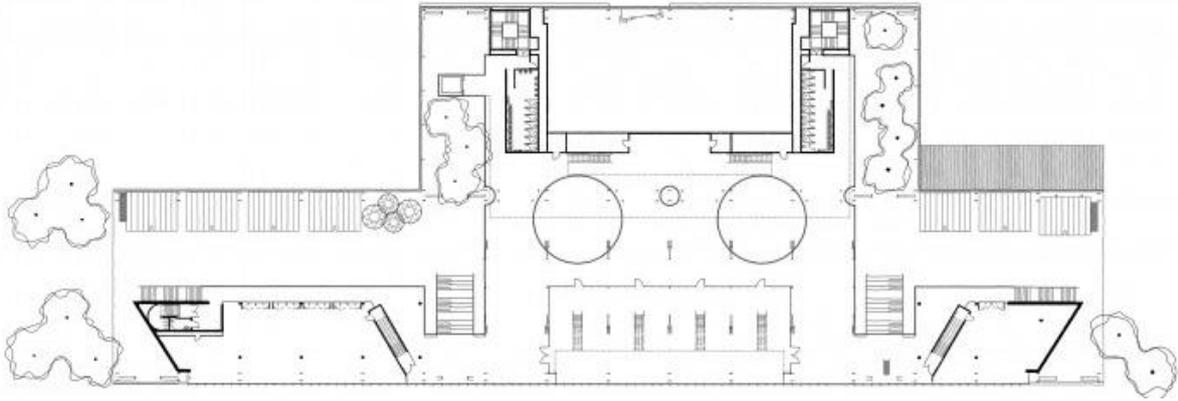


Figure 62 – The Ground Floor Plan of the Watershed

Source: <http://www.wolffarchitects.co.za/projects/all/watershed/>

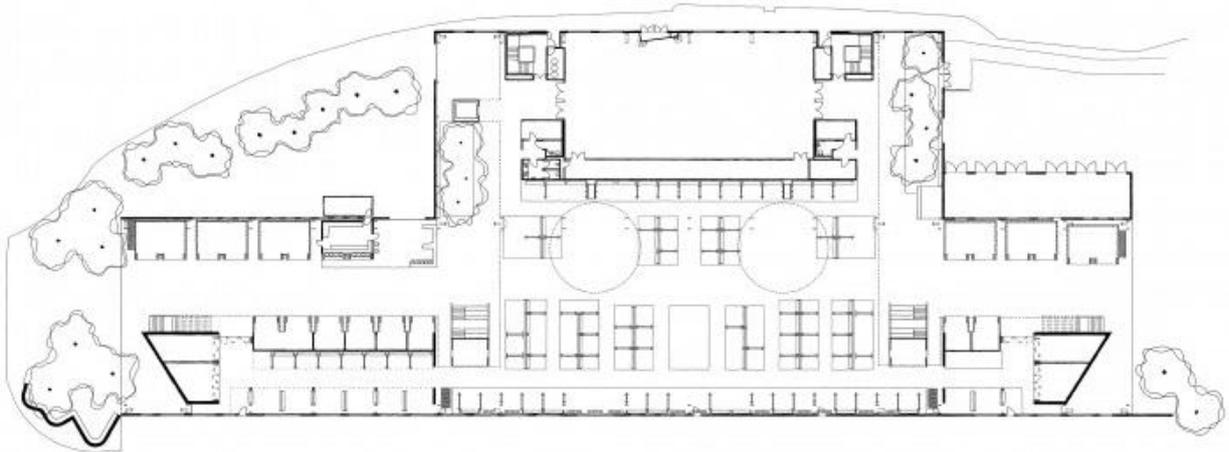


Figure 63 – The First Floor Plan of the Watershed

Source: <http://www.wolffarchitects.co.za/projects/all/watershed/>

The multiplicity of spaces and the quality of the environment evokes a vivid, useful and harmonic image in the individuals of the space (Lynch, 1960: 9). Throughout the interior of the Watershed, the original steel structure is exposed, creating a lightweight street-style market space. The inviting openness and exposure of the building allows for a diverse vibrant and social interaction.



Figure 64 – A render of “The floating floor” represented by a suspended steel structure over the market space, increasing public engagement on street level

Source: <https://insideguide.co.za/cape-town/things-to-do/the-watershed-at-the-va/>



Figure 65 – A market interior render by Wolff Architects with the view of the floating floor, exposed steel elements and services as well as exposure to maximum natural lighting and ventilation.

Source: <http://www.waterfront.co.za>

5.3.5 JUSTIFICATION

What is evident in the design of the Watershed is the nature of adaptively reusing its existing elements to create spatial and urban connectivity. This notion is applied when considering critical regionalism where the building reflects its culture and traditions of its region through a functional design approach

and the use of materials (Chanowitz, 2015). The notion of a right to the city, culture and identity is also visible through the fundamental significance of local artists and their skills of design and crafts.



Figure 66 and 67 – The Watershed is home to over 150 stalls where locals, both young and old can express their talent through arts and crafts, representing that of an African cultural diversity. Here we see the active participation of elderly women through trade within the Watershed.

Source: <https://www.waterfront.co.za/business/leasing/watershed/>

This urban public space sets in motion the right to the city by allowing an opportunity for those individuals to generate an income in the developing world, holding a particular promise in the inclusion of the senior citizen population. Therefore, creating opportunistic activities and a new growth centre, spreading “*benefits to a much wider segment of the population*” (Correa, 1989: 22).

5.4 CONCLUSION

The precedents analysed offer a thorough understanding of architecture and its inclusive spatial layouts, impacting on the social needs of the senior citizen population. Therefore, it must be assumed that the image of the city life, architecture and the social needs of senior citizens are inseparable. The Royal Festival Hall and its urban surrounding context together with the Watershed are successful in enhancing social engagement, interaction and integration between all social groups through its architecture and urban design.

CHAPTER 6- CASE STUDIES

6.1. INTRODUCTION

Within the modernist developing city of Durban, a manifestation of resilience has been identified amongst the elderly street traders of Warwick Junction. The following chapter highlights the study of the Lime and Impepho Market. This is a prime example of the significant importance of the marginalized elderly population in economic growth. Warwick Junction is evidence of how those marginalized groups of individuals can “*enliven a city centre, generate employment for themselves and expanded services for the population at large*” (Hart in Skinner, 2010: 1).

6.1.1 THE LIME AND IMPEPHO MARKET OF WARWICK JUNCTION, DURBAN, SOUTH AFRICA



Figure 68 – The Lime and Impepho Markets of Warwick Junction, Located under the bridges of the N3 Freeway

Source: author

6.1.2 HISTORY AND BACKGROUND

Warwick Junction is one of South Africa's largest primary transportation nodes and occupies up to 5000 traders a day. A variety of different markets operate daily. From the Bovine Head Market to the Early Morning Market, to Brook Street Market, the Lime and Impepho Market and Traditional Herb Market; these varieties offer a vibrant hub of traditional African goods and services. In 2009, plans to build a shopping mall were unsuccessful due to the contestation by locals and traders at Warwick. As a result, the Warwick Market has become a symbol of growth and what is possible in developing countries and cities (Dobson, 2011).

6.1.3 LOCALITY IN THE URBAN CONTEXT



Figure 69 – The Warwick Junction market in its urban context, located at the inner city of Durban

Source: <https://earth.google.com/web>

Warwick is located at the inner city of Durban and is surrounded by major modes of transportation systems including the rail, taxi and bus systems. The Lime and Impepho Market occupy the leftover spaces under the bridges of Russel Street, Eilat Viaduct and the Traditional Herb Market. The immediate markets south of the Lime and Impepho Market is that of the Herb Market, Brook Street Market and the Bovine Head Market. The Early Morning Market is situated at the western side. The market is surrounded by residential, industrial, educational facilities and commercial zones. The major

transportation systems are a vital connection between the Warwick Precinct and its various nodes of the rest of the city, allowing for a diverse crowd to filter into the precinct.



Figure 70 – The locality of those markets surrounded the Lime and Impepho market.

Source: <https://earth.google.com/web>

6.1.4 RESILIENCE AND RESISTANCE

A prime example of resilience within Warwick is that of the Lime and Impepho Market consisting of approximately 100 traders. Some traders sell Impepho, an incense from Kwazulu-Natal and the Eastern Cape, used to communicate with their ancestors. The lime is mined from Ndwedwe, a rural area north of Durban and is presented at the market as balls of red or white clay. The clay is applied to the skin for traditional purposes by sangomas. Zodwa Nene (2009), a lime trader, explains that the elderly women, including herself, physically obtains the lime from deep in the mine pits of Ndwedwe and prepares the lime into balls. Rather physically exhausting for these elderly women, it is evident that these elderly women adapt to their physical labour to suit their survival needs (Dobson, 2018), thriving under the conditions of informality and leftover spaces of the city. Another factor contributing to the resilience of these elderly women is the ability to trade whilst in the midst of looking after their children. With a low income generated, these women are unable to afford child care services, thus, resulting in the presence of their children throughout the day at the market.

The elderly citizens of the market are left vulnerable to external factors that threaten their livelihoods. The heavy rainfall in 2011 left these elderly women in devastating conditions, destroying their

habitable space and only source of income. However, even through these consequences, they are resilient enough to continue to develop livelihood strategies.



Figure 71 – The reality of the natural conditions destructive to the unprotected Lime and Impepho Market

Source: <https://aet.org.za/projects/2035-2/>



Figure 72 - Elderly citizens continue to trade under the harsh conditions in which this market exists

Source: <https://aet.org.za/projects/2035-2/>

6.1.5. INFRASTRUCTURE AND ARCHITECTURE

With no significant architecture at the Lime and Impepho Market, the concept of resistant is identified through the underutilized spaces under the bridges. However, since the heavy rainfall in 2011, the elderly female traders have expressed a dire need for infrastructure in order to shelter and protect themselves as well as their goods. Asiye eTafuleni, together with the elderly traders at the market

have implemented a design intervention to better accommodate the informal traders and understand their needs. However, till today the market still stands as is.



Figure 73 and 74 - The proposed structure of shelter and storage facilities by Asiye eTafuleni that involves a more inclusive process with the informal traders. Thus, emphasizing the right to participation and appropriation.

Source: <https://aet.org.za/projects/2035-2/>

It becomes evident that there a symbiotic relationship between the market and the infrastructure it requires (Stols, 2011). Although the Lime and Impepho market has evolved organically from transportation hubs and constructed with crates, plastic and mattresses, it is up to architects to address key principles of moving from the problem to an opportunity through design systems and to provide structural elements of protection in order to create a dynamic architectural solution (Harber, 2011)

6.1.6 JUSTIFICATION

With no basic facilities such as water, shelter and toilet facilities, these elderly women sleep at their trading sites (Skinner, 2010). Therefore, attempting to create a sense of belonging and identity through active informal trade, expressing the power of resilience and the right to the urban fabric of the city. The notion of culture becomes evident in the traditional goods sold at the market, together with a strong cultural support system amongst the elderly, identifying and sharing similar circumstances of survival methods and opportunities as well as the ability of gaining an income despite their circumstances. Therefore, uniting this community of elderly citizens. These markets represent the importance of these elderly women as well as their valuable position in economic growth.

6.1.7 CONCLUSION

The case study of the above market provides an insight on the value of active elderly citizens within the developing world. What can be extracted from this study are the strategic attempts at grasping at

the urban fabric of the city and an attempt to facilitate the notion of resilience in order to claim their rights to their city.

6.2. THE KENDRA GARDENS RETIREMENT HOME



Figure 75 – North View of The Kendra Gardens Retirement Home

Source: Author

6.2.1. INTRODUCTION

The following case study explores the ‘human feeling’ (Alexander, 2003) that is closely linked to the notion of living. The Kendra Gardens Retirement Home is critically analyzed according to the needs of the senior citizen population and the fundamental role of the built environment in relation to these needs.

6.2.2. HISTORY AND BACKGROUND

Kendra was founded in 1953 by a Gujarati organization. Their primary aim was to build a temple and a community centre, promoting the Hindu culture and traditions as well as serving the needs of the community through various social, cultural and educational activities. With the growing rate of the senior citizen population as well as the customs of embracing the elderly (Juta, 2018), influenced the

need for a facility to accommodate senior citizens. Thus, resulted in the Kendra Gardens Retirement Home. This facility is primarily targeted at those senior citizens that require little assistance with independent living.

6.2.3. LOCALITY IN THE URBAN CONTEXT

Located near the inner city of Durban, Kendra is surrounded by major public nodes such as the Greyville Race course, Botanical Gardens and Warwick Junction, identifying with urban public spaces. Educational facilities such as the Durban University of Technology, Orient Islamic School, Durban Girls Secondary School and St Augustines Catholic Primary School as well as health care facilities such as St Aiden's Hospital and the City Hospital are the surrounding zones of Kendra Gardens. Modes of public transport such as busses and taxis create an easy, accessible and viable access in and around Kendra.



Figure 76 – Kendra Gardens locality in its urban context

Source: <https://earth.google.com/web>

6.2.4. ARCHITECTURE AND URBAN DESIGN

Kendra Gardens consists of four storeys and are currently extending to five storeys for the provision of added accommodation. A total of 90 bedrooms currently exist.

Ground floor:

- A reception and wait area
- Undercover parking for staff and residents
- Boardroom
- Outdoor garden

First floor:

- Reception and wait area
- Management and administrative offices
- Doctors room
- Kitchen and dining hall
- Library space
- Laundry room
- Open lounge area
- Staff accommodation

Second floor:

- Daycare centre for the frail citizens
- Gymnasium
- Salon
- Bedrooms – single and double rooms
- Lounge area

Third and fourth floor:

- Single and double rooms
- Open lounge area

Mumford (cited in Eggener, 1984: 228) states that culture and identity are stitched strongly together and therefore reflect architectural expression. Furthermore, Mumford (1984) believes that regionalism is not about the usage of as much local materials or any ancestral construction methods but rather to “*meet the actual conditions of life and which must fully succeed in making people feel at home in their environment*” (Mumford in Eggener, 1984: 228).

Kendra Gardens has successfully achieved this sense of place in meeting the needs of senior citizens. A symbiotic relationship between nature and the elderly exists through a north facing garden, inclusive of a vegetable garden and is in close proximity to Botanical Gardens which is inclusive of senior citizens. This offers a way in which senior citizens can experience maximum relaxation and

minimum stresses. The vegetable garden allows senior citizens to keep busy and active as well as acts as a sustainable approach whereby the vegetables harvested are used and prepared by the chef of the kitchen. Therefore, enhancing a sense of belonging for the elderly.



Figure 77 – The vegetable garden incorporated at the facility, primarily managed by the senior citizens of Kendra Gardens.

Source: Author



Figure 78 – The north facing outdoor garden with only a visual connection of the sports field of St Augustines Catholic Primary School.

Source: Author

The building makes use of maximum natural lighting and ventilation through its large glass facades. Significant design consideration has been implemented to allow residents to enjoy pleasant views of their surrounding city through their large windows at each room.



Figure 79 – The large north facing glass windows allows for pleasant views, natural lighting and ventilation.

Source: Author

Although Kendra Gardens is located just a few meters from the Orient Islamic School and other neighbouring schools, active engagement with children has not been encouraged. Engagement and an inclusive environment such as outdoor garden and lounge spaces for social interaction occur within the boundaries of Kendra Gardens. Therefore, it is assumed that senior citizens are unable to expand their realm of public engagement.

6.2.5. INCLUSIVE ACTIVITIES AND PROGRAMS FOR SENIOR CITIZENS

Kendra Gardens is closely linking to the Kendra Hall which serves as a religious and cultural aspect to the elderly and the community. Senior citizens of Kendra Gardens attend programs and services at the Hall twice a week as well assist staff in preparation of food for significant events. Other activities such as laughing yoga, meditation and light gym programs occur within the facility, enhancing the notion of active participation and improving health conditions. A medical doctor is present once a month to further assist in the healthcare of senior citizens. Some senior citizens express their skills and talent through knitting, crochet work and teachings of Hindu scripture and language.

6.2.6. JUSTIFICATION

Kendra Gardens resembles the notion of successful place-making for senior citizens within its urban context. In close proximity to walkable nodes such as Botanical Gardens and Kendra Hall, this allows greater independence for senior citizens, improving their health conditions and enhancing their lifestyles. Although active participation and engagement among senior citizens is contained within their livable environment and very minimal social public participation at a greater length, Kendra Gardens alleviates the loneliness and isolation elderly citizens encounter through their different forms of activities. The cultural concept is evident through its historical important site and a society inclusive of senior citizens rights to their culture and identity. Kendra is significantly important in its inclusive aging environment and is evident in the theory of living, creating a sense of safety and security as well as comfortable experiences within their immediate urban environment.

6.2.7. CONCLUSION

The Kendra Gardens Retirement Home is closely linked to its culture and heritage but lacks its social connection to its surrounding nodes. However, this building goes beyond just meeting the needs of accommodating the senior citizens but rather creating the image of a spatially inclusive built environment.

CHAPTER 7 – ANALYSIS

7.1. INTRODUCTION

The previous chapter of this dissertation identified the relationship between the built environment and senior citizen population. Key theories and concepts as well as precedent and case studies related to senior citizens, inclusion and architecture were explored and analysed. The following chapter analyses responses from interviews and discussions of the findings from both informal elderly traders and those living in an aged-care facility. The data collected shall be analysed and compared to the theoretical and conceptual research undertaken.

7.2. ANALYSIS AND DISCUSSIONS OF FINDINGS OF THE LIME AND IMPEPHO MARKET OF WARWICK

The objectives of this research were to identify the manifestation of resilience as a survival strategy as well as explore the lifestyle of those active working senior citizens. These objectives have been reached through the analysis of the case study – The Lime and Impepho Market by engaging with those resilient elderly women who attempt to generate an income on a daily basis. These women sleep at their sites, resistant to their current urban environment. The notion of resistance and resilience explored in chapter 3 of the literature review aims to identify, globally, the survival strategies of senior citizens, primarily through the informal trade economy.

The Lime and Impepho market of Warwick Junction explored the notion of resilience amongst the senior citizen women predominantly trading at the market. Through in-depth interviews and observations, the concept of identity and theory of culture has become evident and defined. The prime finding is the unique, diverse, cultural background of the use and production of lime that these women utilize in order for their survival opportunities. Another observation is the role the built environment plays in the livelihoods of these senior citizen informal traders. With these women tucked under the freeways and socially and spatially excluded, their income generated is minimal as they are with no recognition at the market. Therefore, it must be assumed that there is a dire need to facilitate these elderly women in secure, viable and easily accessible facilities.

The following questions were posed to the elderly informal traders:

- Do you feel safe and happy in the current environment?

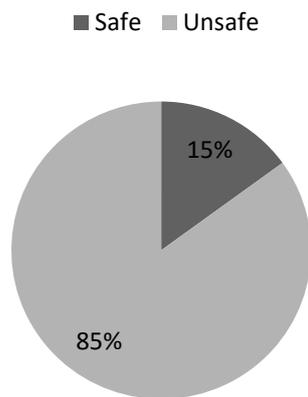


Figure 80 – The primary question regarding safety and security within the Lime and Imphepo Market.

Source: Author

The data extracted from the interviews and observations depicts the obvious need for hygiene, shelter, healthcare and sanitary facilities. 85% of elderly women do not feel safe nor satisfied with their physical conditions at the market. 15% of these women felt protected by taxi drivers in and around the site.

- What amount of income do you make in a day?

The formalization and development of the inner city has allowed the market to operate 7 days a week (Ndlovu, 2018). However, despite the important role of the Warwick economy, the interviews revealed that every senior citizen at the Lime and Impepho Market generate a bare minimum amount of income, barely enough to cover public transportation fees as these senior citizen women are from areas such as the Eastern Cape, Ndwedwe and KwaMashu. Hence, is a direct result of these women sleeping at their stalls.

Other factors resulting in their stay is the lack of storage facilities for their products. With no adequate security, these women are often vulnerable to robberies, having their personal belongings and goods stolen.

- Why did you join the market at Warwick?

■ Previously Unemployed ■ Retired with no means of income

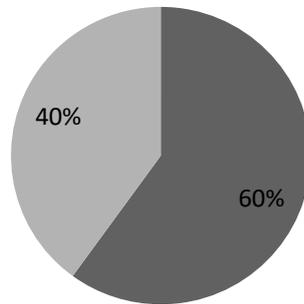


Figure 81 – A question posed to the elderly traders regarding their previous employment

Source: Author

The findings demonstrate that 60% of women were unemployed and needed some sort of income to support their families. The other 40% had lost their jobs in the formal sector once they reached 60 years of age. Therefore, these senior citizens were drawn to the market because of economic trade and opportunity through their knowledge, expertise and skills.

The overall findings from the case study analysed depict an unsupportive architectural environment between the informal elderly traders and their current conditions of liveability, as their needs are overlooked.

The findings from this case study highlight a lack of an architectural response of an inclusive environment as well as addressing the needs of these elderly informal women. The findings also demonstrate no visual or physical link between the locality of the Lime and Impepho Market and its surrounding context.

Another objective of this research of exploring the role of how the built environment, together with the community, can form a platform for social integration and inclusion for senior citizens has been identified and analysed through the precedent study of the Royal Festival Hall whereby inclusive design principles in a public building has been considered in order to facilitate social and spatial integration. The Watershed, although not catering specifically to the spatial needs of senior citizens, still incorporated a vibrant market space on the ground floor that's easily accessible and inclusive of senior citizens, allowing them to generate an income through their talents of arts and craft work. Thus, creating a platform of social integration between senior citizens and the general public.

The findings of the precedent studies of The Royal Festival Hall and Watershed are indicative of an architecture that “gives a conceptual and material structure to societal institutions, as well as the conditions of daily life” (Pallasamaa, 2005: 41). The Royal Festival Hall depicts an inclusive urban and architectural design that is closely connected to the rights to the city approach for senior citizens. Thus, adding an architectural value to its design. Further to this, this building engages with the notion of a ‘livable’ environment, integrating a universal design response, considering the needs of senior citizens. Both precedent studies identify with a strong sense of cultural diversity through activities of trade. Much like the Lime and Impepho Market, culture and identity represent a centred whole, influencing its surrounding context, formed by its local characteristics and thus contributing to the purpose of one’s identity (Alexander, 2010: 11).



Figures 82 & 83 depicts the importance of space and place, emphasizing the power of place and its role in the built environment. The Royal Festival Hall, as seen on right, accommodates for an active market space and the notion of critical regionalism. The Lime and Impepho Market, on the left, clearly depicts the resilience and resistance against the built environment whereby elderly traders claim leftover spaces within the city and thus, claim their rights to the city.

Source: <https://www.thestage.co.uk/news/2013/southbank-centre-predicts-400-visitor-increase-festival-wing-post-revamp/>, Author

7.3. ANALYSIS AND DISCUSSIONS OF FINDINGS OF THE KENDRA GARDENS RETIREMENT HOME

The case study of the Kendra Gardens Retirement Home explored the interaction of the built environment to the needs of the senior citizens. Kendra Gardens portrays an architecture that involves both physical and mental structures, igniting individual sensory engagement with the physical realm (Pallasamaa, 2005: 45). One of the objectives of this research was to understand the way in which facilities can respond to the needs and challenges of senior citizens and explore the lifestyle of senior citizens in an aged-care facility. These needs include a safe and healthy environment, connection to nature, accessibility to public spaces, access to public transport and healthcare. This objective has been reached through the analysis of the case study - Kendra Gardens Retirement Home. This case study explored all of these factors within the facility that helps to generate a better, livable

environment for senior citizens, making it easier for senior citizens to live and in turn, improving their health care.

One of the key observations is the locality of Kendra Gardens to its surrounding context. However, the general statement by senior citizens interviewed was the lack of public engagement with society and the senior citizens.

The following questions were posed to the residents of Kendra Gardens:

- What activities would be beneficial to encourage social interaction?

All senior citizen residents felt the need to engage with children and teenagers of the various surrounding educational facilities. They would also enjoy activities outside the residence such as braais, picnics, cooking and teaching school children. Some elderly female residents are particularly skilled at knitting, sewing and crochet work and expressed the option of securing an income by selling their products at markets or events. All residents interviewed enjoyed the outdoors and connection to green spaces such as their central garden and Botanical Gardens.

- Do you feel a sense of belonging here?

All residents expressed the satisfying inclusive environment that they reside in, not only through the building design but the centeredness of Kendra within the inner city and accessibility to its context. Each room represents a sense of belonging and identity through colours, large windows looking out onto the city and personal belongings of senior citizens such as pictures. Thus, evoking a connection to the past and present through memory and experience.

The notion of critical regionalism is evident through strong influences of the historical site of Kendra Gardens as well as the cultural background that is currently present.

When compared to the findings of the Royal Festival Hall and the Watershed, all three buildings make use of maximum natural lighting and ventilation. Much like the precedent studies analyzed, Kendra Gardens is linked to different public nodes surrounding each of these buildings, thus, creating a strong sense of connectivity and inclusivity between senior citizens and social and public spaces. Despite the rapid growth of urbanism, Kendra Gardens, with its relevant architectural response to the needs of senior citizens, aimed at creating a successful, integrated place-making environment.



Maximum lighting and natural ventilation throughout the façade of the Kendra Gardens Retirement Home.

A visual and physical central garden space depicts the connection to nature, a sense of belonging, as well as a safe space for senior citizens.

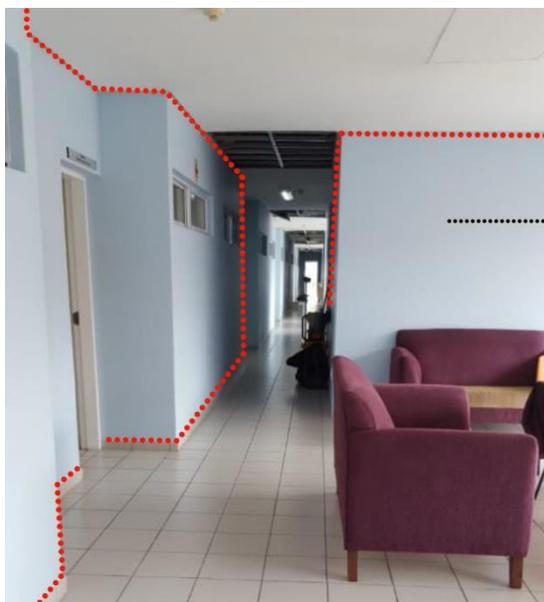
Figure 84 represents the concept of identity and culture of the senior citizen population. The principles of an age-friendly inclusive spatial approach have been applied at the Kendra Gardens Retirement Home, giving senior citizens the right to shape their urban life.

Source: Author



Figure 85 – Depicts the strong visual connection to St. Augustines Catholic Primary School. This vital connection portrays a sense of comfort for senior citizens, being in close proximity to school children.

Source: Author



Warm colours stimulate the feeling of a calm and relaxed state of mind within senior citizens.

Figure 86 – Through elements of architectural design, senior citizens express their physical and psychological experiences through the quality of space. Kendra has achieved a positive sense of belonging for their senior citizen population.

Source: Author

7.4. CONCLUSION

What is evident in the data collected is that senior citizens play a vital role in both their community and the economy through their knowledge, skills and expertise. Therefore, architects and planners should focus on the needs of this specific group in order to address social and spatial inclusion. By actively engaging with senior citizens, a more inclusive built environment can be established.

CHAPTER 8 - CONCLUSIONS (AND RECOMMENDATIONS)

8.1. INTRODUCTION

The research and in-depth analysis of literature review, precedent studies and case studies aims to develop an understanding of the influence of architecture on the needs of the senior citizen population. This research seeks to address the problem statement of this dissertation:

In cities so actively involved in adhering to the needs of senior citizens, the state of marginalization and exclusion are active agents of resilience amongst seniors. Through the process of urbanization, architects, policy makers and planners capitalize on urban growth and development and therefore, not enough is being done in terms of designing and providing for the needs of the senior citizen population.

Conclusions and recommendations relevant to the research are drawn up in order to test the hypothesis of the dissertation that:

A Multi-Purpose Centre can be used in the context of the built environment to assist toward the needs of the senior citizen population and play a significant role in economically and socially empowering them. Furthermore, this Centre will provide for more inclusive and participatory solutions for senior citizens, creating more socially integrated spaces to alleviate their conditions of exclusion.

The information from the following conclusions and recommendations aims to develop architectural design principles for the design of a Multi-Purpose Centre for senior citizens of Durban.

8.2. CONCLUSIONS

As it has been postulated, cities represent high levels of economic growth through the drivers of globalization and urbanization. However, they also represent the marginalization and exclusion of senior citizens, both socially and spatially. Through this process of social and spatial exclusion, a unique identity and culture is manifested among senior citizens. The research explored how the concept of identity and culture is developed among senior citizens through the rejection of the current urban environment. It also explored the value and importance of this selected sample. The theoretical and conceptual framework defined the concept of culture and identity as the livelihoods of senior citizens.

Resistance and resilience primarily focuses on senior citizens that claim their rights to the city within an unsupportive environment through strategies of survival. This form of resistance and resilience claim the right to participation and appropriation socially, spatially and economically, within the urban fabric of the city. By acknowledging the reality of the two phenomenon, this research explored

various interventions to allow for a more inclusive built environment, to better accommodate to the livelihoods of these senior citizens.

The secondary research analysed explored the inclusivity of senior citizens through architectural design strategies. Furthermore, social integration through different public spaces provides and insight toward the importance of an inclusive urban future.

The primary research undertaken investigated the Lime and Impepho Market of Warwick Junction in order to develop an understanding of resilience through the contestation of spatial rights amongst elderly traders. These traders are barely noticed and neglected at the market. A strong sense of identity and culture is visible amongst these citizens as a result of this contestation and the need to generate an income to support their livelihoods. Although Warwick represents the sense of a strong community, there is a lack of architectural response to facilitate the trade and activities amongst these elderly traders. The investigation into the Kendra Gardens Retirement Home is juxtaposed with the Lime and Impepho Market. This case study investigates an architecture that responds to the needs of senior citizens through different activities that encourage the right to participation, allowing for a sense of belonging and an inclusive environment.

The research explored and undertaken identifies the symbiotic relationship between architecture and senior citizens. As a result of this, the research gathered from the primary and secondary data shall facilitate for the design of an inclusive, socially integrated environment for the senior citizen population of Durban.

8.3. RECOMMENDATIONS

The following guidelines will aim to provide an insight and understanding of the design of a Multi-Purpose Centre of senior citizens of Durban. The suggested guidelines are extracted from the literature review and theoretical framework analysed and shall be implemented in the design report of this dissertation.

- The facility should allow for an easy interaction between senior citizens and the public and should cater to a multi-generational group of people.
- The facility should provide economic and social opportunities for senior citizens through formal public spaces.
- The facility should promote a supportive, barrier free architecture and environment.
- Affordable daycare facilities should be provided. As the case of the Lime and Impepho Market shows, these resilient elderly women may require a daycare facility.
- NGO or Co-Op offices should be provided. The proposed facility incorporates a market space with primary participation of senior citizens. Therefore, the offices should be incorporated to aid in security and protection of these senior citizens.

- Public spaces on the ground floor should allow for maximum flexibility of publicness.
- Besides the market trading facility, other small retail and commercial business spaces shall assist in the income revenue for the building through rental spaces.
- Architectural solutions such as accessible spaces, safe spaces and tactile spaces shall be implemented to ensure the safety and well-being of senior citizens.
- Green spaces such as courtyards and gardens should be incorporated to create soft spaces within the site.

The specific guidelines shall assist in design and architectural strategies, attending to the senior citizen population of Durban.

8.4. SITE SELECTION GUIDELINES

The locality of the facility is pertinent in the design development process. The selection of the site is subject to the needs of senior citizens. The following guidelines are best suited for the site selection:

- The site should be located in a well-integrated community, rather than away from public life. Therefore, located within an urban context.
- The site should be relatively close to public transport nodes and routes and healthcare facilities.
- The site should cater to markets for trade activity amongst senior citizens.
- Educational facilities should be in close proximity to the selected site to encourage social integration with the younger generation.
- The site should be easily accessible to both the public and senior citizens.

8.5. CONCLUSION

The overall recommendations and site selection guidelines established is as a response to the social exclusion that senior citizens endure on a daily basis. The proposed Multi-Purpose Centre shall express, through design principles, the opportunity of social and spatial integration, together with an economic hub of opportunity for senior citizens. This centre shall act as a platform to better improve the livelihoods of senior citizens and in turn, create a symbiotic relationship between the built environment and senior citizens.

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10. LIST OF APPENDICES

APPENDIX A:

Gatekeepers/ Interview consent form

Information Sheet and Consent to Participate in Research I, Shivani Budhal (Student No. 209502084), am currently working toward a Master's degree in Architecture. The proposed research document is "The influence of Social Resilience on Architecture: Towards the design of a Community Resource Centre for the senior citizen population in Durban".

Student Details Shivani Budhal School of the Built Environment and Development Studies University of KwaZulu-Natal, Howard Campus, Durban Email: shivanibudhal@gmail.com Cell: 083 310 9907

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HSSREC Research Office Details Dr Shenuka Singh. Humanities & Social Sciences Research Ethics Committee University of KwaZulu-Natal, Westville Campus, Durban Email: ximbap@ukzn.ac.za Cell: 031 260 3587

To whom it may concern:

This information consent letter, a copy of which has been given to you, outlines the details of my theses research and what your participation entails. This project is part of my requirements for the course, Arch808H0: Dissertation: Architectural Design, Under the supervision of Viloshin Govender. This research primarily focuses on the senior citizen population and how social resilience may facilitate architecture and the built environment, through the process of creating social integration through socio-spatial facilities. It will further provide solutions for a more inclusive and participatory built environment for the senior citizens.

Participation in this project is voluntary and there are no known or anticipated risks to you as a participant in this study. The interview will be approximately 20min-30min in length. You can decline to answer any of the interview questions if you so wish or terminate the interview at any time. Any information you provide is kept confidential. Your identity will remain anonymous in any written report and your information will be de-identified prior to storage. However, with your permission anonymous quotations may be used. With your consent, data collected for this project will be retained for five years in my supervisors' locked office at Howard College. The data will only be accessed via my supervisor at Howard College, UKZN and myself.

If you have any questions, please feel free to contact me. Please indicate below your willingness to participate in this study. Thank you in advance for your co-operation in this research.

Participant name :.....(please print)

Participant signature.....

Witness name:

.....(please print)

Witness signature.....

Date.....

.....

Yours sincerely

APPENDIX B:

CONSENT FORM

(To be signed by the participant before each interview) One copy to participant, and one signed copy to the researcher

I have read the information presented in the information letter about a project being conducted by Shivani Budhal of The Department of Humanities and Built Environment Studies at Howard College, UKZN, under the supervision of Viloshin Govender. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and additional details I wanted. I am aware that I have the option of allowing my interview to be recorded to ensure accurate recordings of my responses.

I am aware that my quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

I was informed that if I have any comments or concerns resulting from my participation in this project, that I may contact the researcher.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

Yes No

I agree to the use of anonymous quotations in the final research project report that comes of this research.

Yes No

I agree to allow audio-recording during the interview.

Yes No

Participant name :.....(please print)

Participant signature.....

Witness name:.....(please print)

Witness signature.....

Date.....

APPENDIX C:

The interview is conducted with members of the Kendra Gardens Retirement Home as well as the Asiye eTafuleni offices, in the Warwick Junction Precinct, Durban, South Africa. The following interview is to help better understand the organizations dealing with the senior citizen population and the influence they may have on them.

How many facilities do you have, and how big are they?

.....
.....

What influenced you to create this organisation?

.....
.....

What is provided for the elderly in this organisation?

.....
.....

How has this organization influenced the lives of the elderly?

.....
.....

What courses do you have for volunteers at your organization?

.....
.....

What age groups of the elderly population is accommodated for by your facility?

.....
.....

What prices do you charge the elderly and what activities do they partake in, in order to be able to pay for this?

.....
.....

What activities or programs (social, health) are encouraged to improve the health of the elderly?

.....
.....

Does your facility offer a chance to reintegrate the elderly back into society?

.....
.....

Does your facility encourage social integration between the public and elderly?

.....
.....

What challenges do staff encounter whilst managing the facility and taking care of the elderly?

.....
.....

What spaces do you think will be needed to benefit the elderly?

.....
.....

Is there any further information you could provide that will help benefit this research paper?

.....
.....

Interview: The senior citizens of Kendra Gardens Retirement Home, Durban, South Africa

The following interview is to help better understand the lifestyle of the senior citizens, their needs and wants, due to there being minimal research done on this sample.

How old are you and when did you join this organization?

.....
.....

Do you feel the activities that you partake in are beneficial to you?

.....
.....

What is your relationship like with the staff members?

.....
.....

What activities would be beneficial to encourage social interaction?

.....
.....

Do you feel a sense of belonging here?

.....
.....

Is there any further information you could provide that will help benefit this research paper?

.....
.....

Interview: The senior citizens of The Lime and Imphepo Market of Durban, South Africa

The following interview is to help gain a better understanding of the informal elderly traders within the Lime and Imphepo Market and their everyday lifestyle under the freeway bridges.

When did you start trading at Warwick Junction?

.....
.....

What do you sell here?

.....
.....

What is your relationship like with the public?

.....
.....

Do you feel safe and happy in the current environment?

.....
.....

Why did you join Warwick?

.....
.....

What did you do before joining Warwick Junction?

.....
.....

What amount of income do you make in a day?

.....
.....

Where do you stay at night when the market closes?

.....
.....

PART TWO

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Figure 27 – Recycled bricks and a thin layer of plaster revealing the brick layer work behind it gives the proposal a raw, natural look, an expression of a sense of belonging and informality, (Source: <http://www.gpl.imageafter.com/image.php?image=b8walls016.jpg&size=full&download=no> Accessed October 2018)

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CHAPTER ONE – INTRODUCTION

1.1 INTRODUCTION

The following chapter outlines who the client is for the proposed project, their requirements and draws upon a project brief for the proposed Multi-Purpose Centre, taking into consideration the theoretical and conceptual framework from Part One of the dissertation. The Warwick Junction Precinct has been selected as the proposed site for the architectural proposal due to there being a large number of informal senior citizens therein. The Multi-Purpose Centre within this selected site shall provide a great benefit to senior citizens, restoring their culture and identity and thus facilitating social and spatial integration.

1.2 PROJECT DESCRIPTION

Through extensive research, the theoretical and conceptual framework in Part One generated urban and architectural requirements in order to carry out the proposal.

Urban Design Requirements:

- 1 The Centre should be easily accessible and viable to the public and by the same process, be safe and secure in and around the centre.
- 2 The Centre should be located in close proximity to the Lime and Imphepo Market of Warwick
- 3 The Centre should be closely connected to major public transportation routes and pedestrian routes.
- 4 The Centre should form part of the cultural and traditional aspects of Warwick Junction.

Architectural Design Requirements:

- 1 The design should allow for a strong pedestrian thoroughfare encouraging social interaction.
- 2 The spaces within the Centre should accommodate for interaction between different age groups and senior citizens.
- 3 The ground floor should allow for maximum flexibility whilst spaces above should be more controlled and secure.
- 4 Tactile, safe and accessible spaces should be encouraged as design drivers in order to create a safe, comfortable space for senior citizens.
- 5 Various points of rest, ramps and walkways must be incorporated in the design.
- 6 The informal trading space must relate to Warwick Market, creating the idea of a sense of belonging for those traders.

7 The Centre allows for employment opportunities for locals and senior citizens in and around the precinct. The facility provides a platform for the resilient senior citizens to carry out their strategies of gaining an income.

1.3. THE NOTIONAL CLIENT

1.3.1. The Client’s Requirements

The client intends to establish a platform of social engagement between senior citizens and society and provide job opportunities for senior citizens. Therefore, the client requires this facility to provide spaces that promote engagement and allows senior citizens to gain their independence. Thus, improving their lifestyles. Accommodation will not be necessary as these senior citizens do have a place to stay but earn very little income and therefore, are unable to afford public transportation fees to go back home on a daily basis. The proposal shall include daycare and classroom facilities, as well as offices for different businesses that will manage the facility. The client requires an informal market/trade space which includes the already informal traders of Warwick and its surroundings, giving them a suitable space to trade.

1.3.2. The Client’s Organisation

The proposal is municipal owned with the client being the eThekweni Municipality in partnership with The Durban Association for the Aged and Asiye eTafuleni. Funding shall be provided by the eThekweni Municipality and sponsors from the various stakeholders. The project will receive revenue through various facilities on site, renting of offices and traders stalls at a later stage once the project is more self-sufficient. The Durban Association for the Aged renders work services and job opportunities to senior citizens. This organisation aims at empowering senior citizens through income generation projects and skills development projects as well as assists with applications for social grants and identity documentation. Asiye eTafuleni helps better understand the needs of elderly informal traders of the Lime and Imphepo Market and therefore, work hand in hand with the proposed facility in order to allow for a responsive architecture to help better improve their lifestyles.

1.3.2. Detailed Client Brief

GROUND FLOOR	
Café/Soup Kitchen	223sqm
Entrance Lobby	84.42sqm
Ablutions	45.56sqm
Multi Purpose Hall	388.75sqm
Food Stall 1	56.70sqm
Food Stall 2	90.65sqm
Traders storage room	102.63sqm
Retail store 1	112.68sqm
Retail store 2	34.41sqm

Retail store	68.02sqm
Security office	18.42sqm
FIRST FLOOR	
Classroom 1	20.86sqm
Classroom 2	10.65sqm
Classroom 3	14.10sqm
Art and exhibition room	404.58sqm
Entrance Lobby	84.42sqm
Ablutions	45.56sqm
SECOND FLOOR	
Daycare	421.41sqm
Community garden	264.25sqm
Entrance Lobby	84.42sqm
Ablutions	45.56sqm
THIRD FLOOR	
Open plan offices	647.48sqm
Entrance Lobby	84.42sqm
Ablutions	45.56sqm

1.4. CONCLUSION

This chapter highlighted the importance in establishing the needs of senior citizens and therefore creating a positive identity for them through various architectural spaces and requirements. This facility will promote a more inclusive strategy of the way in which senior citizens should be considered in the current urban environment.

CHAPTER 2 - SITE SELECTION, SURVEY AND ANALYSIS

2.1. INTRODUCTION

In responding to the requirements of the client, the site selected is within the Warwick Junction Precinct, not to interrupt the current livelihood strategies of the elderly traders, but rather responding to their social and spatial needs.

2.2. SITE SELECTION AND DISCUSSIONS

Based on the primary and secondary research undertaken, the selection of the selected site should have the following criteria:

- The senior citizen population should not be hidden away from society, but rather celebrated and recognized for their value. Therefore, the site should be at the prime location where there are major transportation and pedestrian movements in and around the site.
- Due to the nature of the facility, that being educational, business related and public, the site should be at a prominent street edge.
- Safety and security are the prime needs for senior citizens. Therefore, the site needs to allow for constant surveillance and protection.
- The site must allow for diversity and embrace and value the cultures and traditions of senior citizens.
- Being in close proximity to public transport routes, the site should ensure the safety and wellbeing of senior citizens.

2.3. HISTORICAL BACKGROUND OF SELECTED SITE

Over the years, Warwick Junction has become a prime example of a rich, multi-cultural and diverse society. During the Apartheid years, informal trading was strictly controlled. Street traders were then given permission to trade in the 1980s but no proper trading facilities were provided (Skinner, 2010:4). Currently, the rail, bus and taxi are the major modes of public transport, making Warwick the largest transportation hub in the Durban City. By the mid 1990s, almost 4000 traders (mostly women) operate at Warwick and are forced to live and work in the area.

2.4. DESCRIPTION OF EXISTING SITE CONDITIONS (SITE SURVEY)

2.4.1. Current Land Use

The proposed site is currently zoned as indeterminate. The site is used as a taxi stop and taxi wash area, as well as a space for informal traders lining the edges of the site.

Site area: 11562.29 sqm

Zoning: indeterminate

Min Building line: 7.5m

Min Side/Rear: N/A

Shape: Polygon

2.4.2. Urban Context Locality

The site is located within the Warwick Junction Precinct and various important nodes such as Durban University of Technology, Berea Station, the railway, Warwick Market, various health care facilities, Greyville Race Course and Botanical Gardens. The site is also in close proximity to these elderly informal traders.



Figure 1 – Shows the existing points in yellow whereby elderly informal traders surround the proposed site.

Source: <https://earth.google.com/web>, edited by Author

2.5. SITE ANALYSIS



Figure 2 - Locality of proposed site within its urban context

Source: <https://earth.google.com/web>. Edited by author



Figure 3 – Shows the existing taxi stop and street traders along the edges of the proposed site

Source: <https://earth.google.com/web>. Edited by author

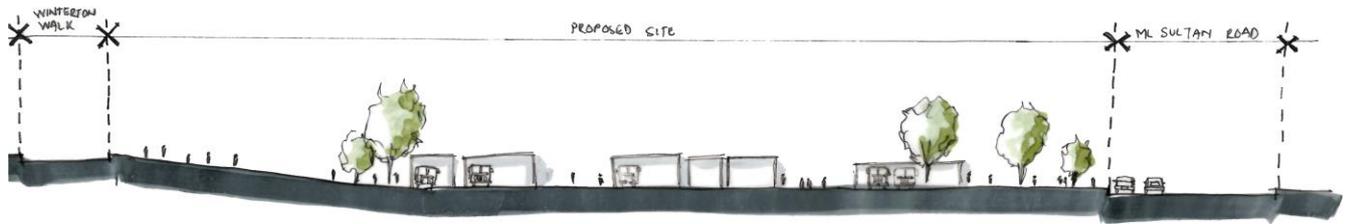


Figure 4 – Site section with views to the existing taxi stop

Source: Author



Figure 5 – The zoning diagram of the Warwick Junction Precinct

Source: <https://earth.google.com/web>. Edited by author



Figure 6 – Vehicle movement around the proposed site. Highlighted in orange shows the high volume of vehicle traffic. Highlighted in yellow shows medium to low vehicle movement.

Source: <https://earth.google.com/web>. Edited by author



Figure 7 – High pedestrian movement around the proposed site depicted in green. Main pedestrian points of rest are highlighted in blue.

Source: <https://earth.google.com/web>. Edited by author

2.6. CONCLUSION

This chapter established the importance of the site selection and its requirements in order to serve the needs of senior citizens. By identifying the advantages and disadvantages by means of a site analysis, this helps to provide the design guidelines under which the facility is to be designed in conjunction with the project brief.

CHAPTER 3 - DESIGN DEVELOPMENT AND RESOLUTION

3.1. PRELIMINARY DESIGN PROPOSALS

3.1.1. Introduction

The following chapter contains the design development drawings, final architectural drawings and the technical resolution of the proposed Multi-Purpose Centre. The drawings to follow are not to its specific scale.

3.1.2. Concept

The concept for the Multi-Purpose Centre is aimed at reclaiming the presence of space and time between the old and new generation through universal architectural solutions. This proposal allows senior citizens to generate an income, seeking the need for independence and the desire to give back to society. This then symbolizes a positive attitude toward the senior citizen population, improving and celebrating their lives. As the population of senior citizens increases, so do their needs. The need for public transport, access to public space, the need for an income and the need for social and spatial inclusion creates a thriving, live-work-play scenario, with a high, economically driven environment. This proposal becomes a hope for senior citizens to become a part of the current urban environment.

3.2. DEVELOPED DESIGN PROPOSALS

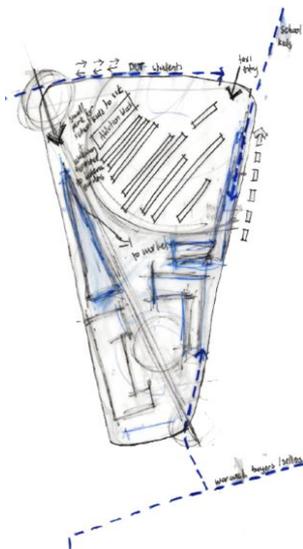


Figure 8 - Pedestrian movement in and around the proposed site.

Source: Author

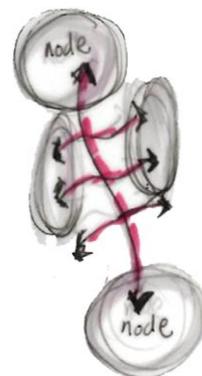


Figure 9 – Sketch of visual and physical connection between public nodes and edges.

Source: Author

ARCHITECTURAL DESIGN DRIVERS

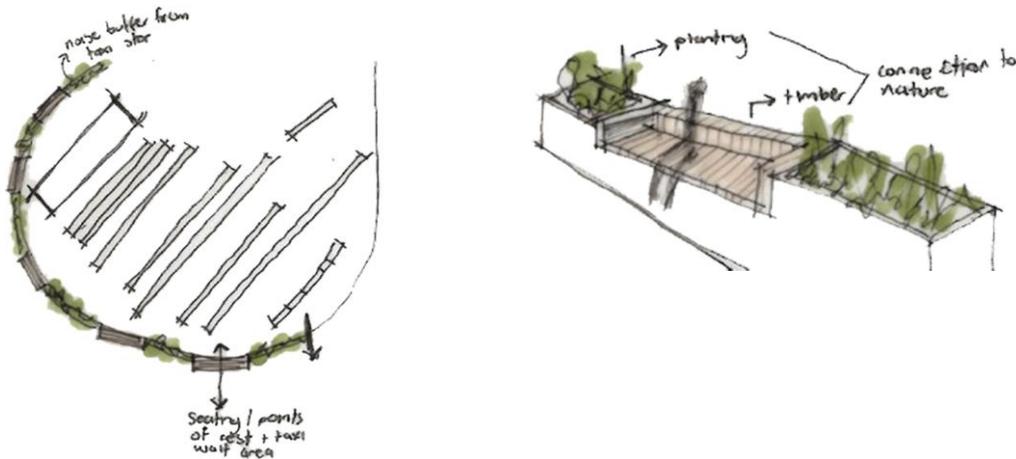


Figure 10 and 11 – Existing taxi rank to incorporate seating spaces as well as greenery to act as a noise buffer and allow a vital connection between senior citizens and nature. Thus, creating accessible and safe spaces.

Source: Author

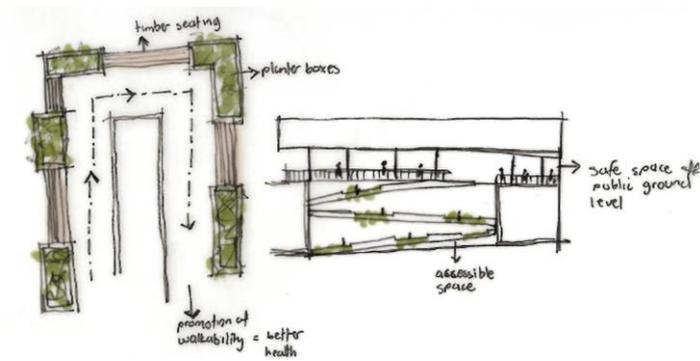


Figure 12 and 13 – Proposed ramps and walkways to express physical and psychological experiences for senior citizens and a sense of belonging in their environment.

Source: Author



Figure 14 and 15 – Conceptual sketches aimed at creating safe and tactile spaces, addressing the needs of the senior citizen population.

Source: Author

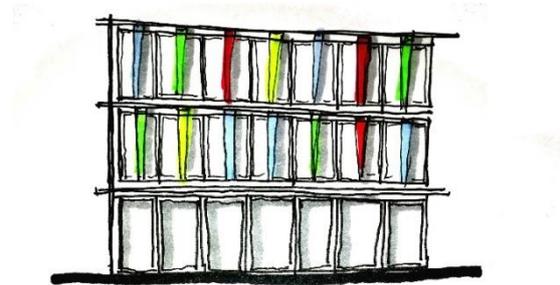
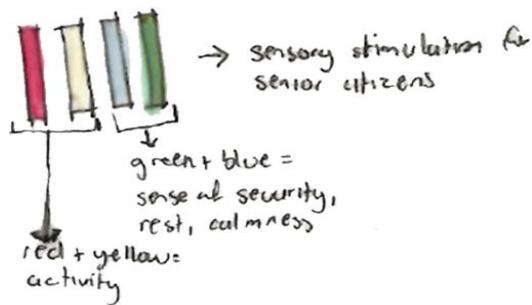


Figure 16 and 17 - Through the aging process, the sense ignites the feeling of security and harmony. Warm colours such as green and blue reflect a sense of security and feeling of being restful and calm, whereas the colours red and yellow both reflect activity (Areks & Weidema, 2011: 5).

Source: Author

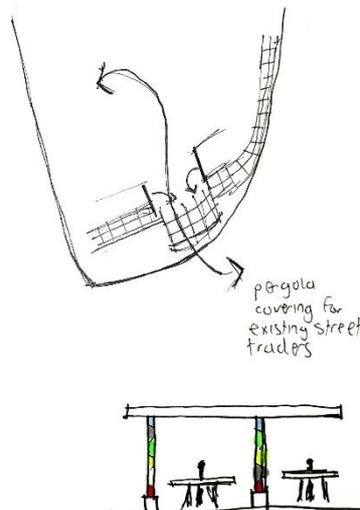
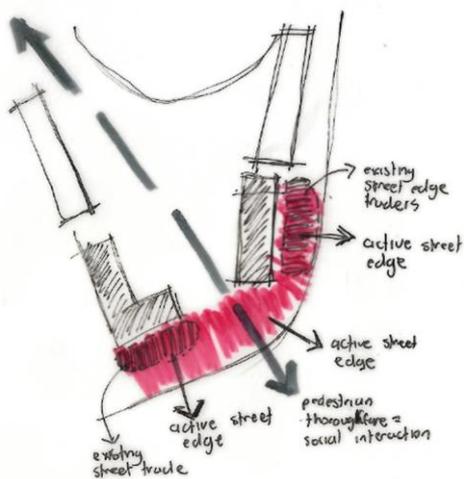


Figure 18 and 19 – Existing and proposed edge treatment

Source: Author

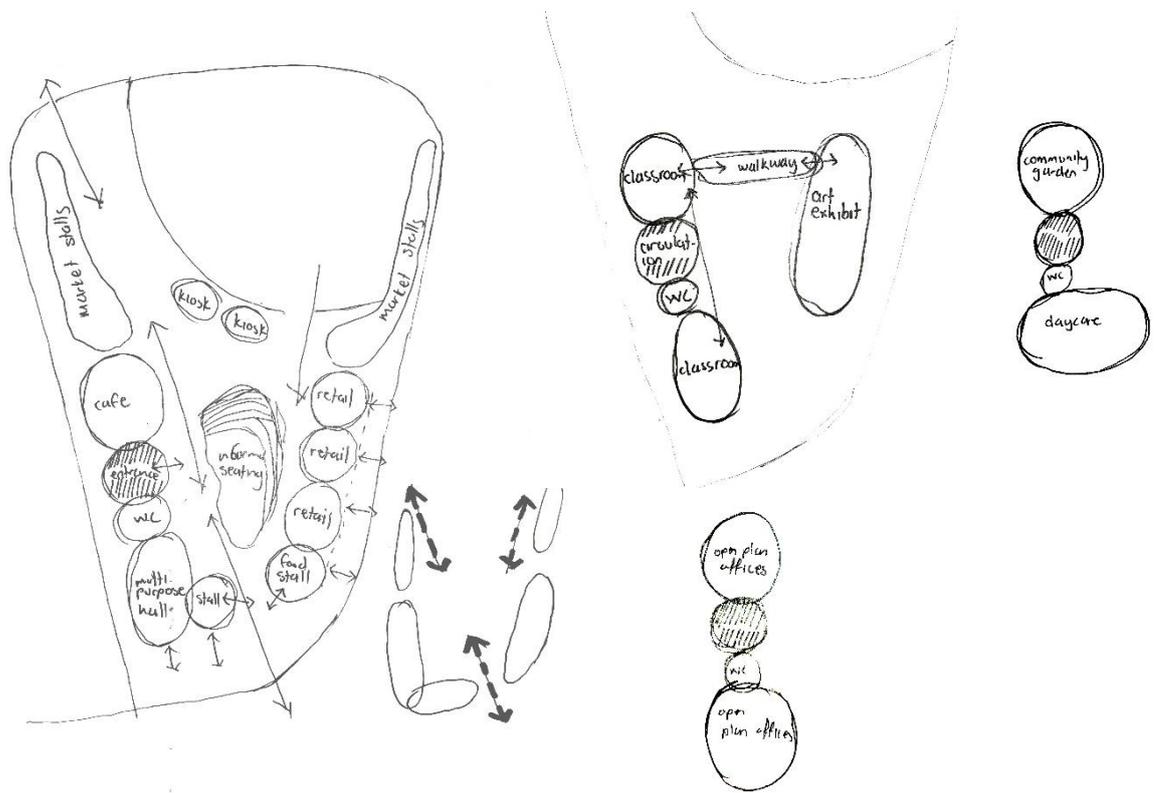


Figure 20 – 24 – Conceptual spatial layout of proposed Multi-Purpose Centre

Source: Author

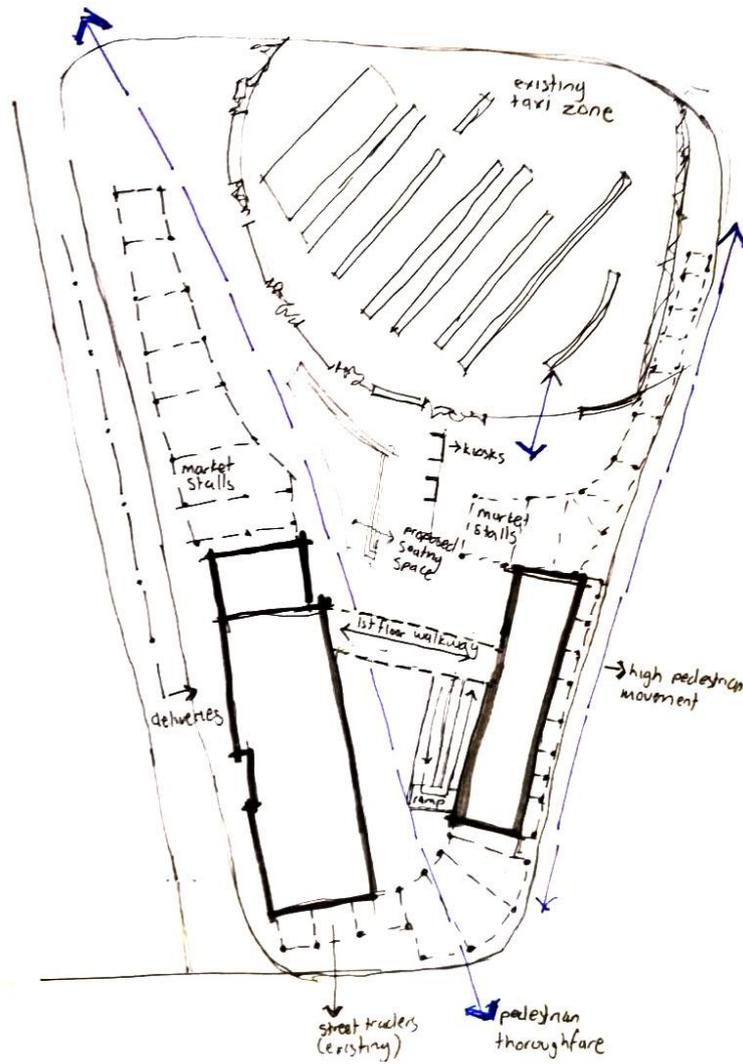


Figure 25 – Possible spatial layout and form design

Source: Author

3.2.1. Materials



Figure 26 - The roof profile selected was the of the Zinalume roof sheeting. The roof is merely just for solar protection, providing natural light within the facility and solar panel fittings.

Source: https://www.awoodshed.com.au/vstore/index.php?route=product/product&product_id=2396

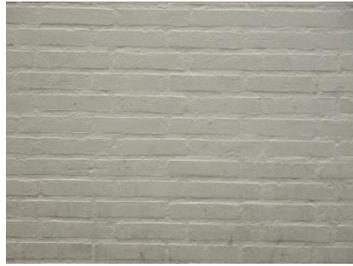


Figure 27 – Recycled bricks and a thin layer of plaster revealing the brick layer work behind it gives the proposal a raw, natural look, an expression of a sense of belonging and informality.

<http://www.gpl.imageafter.com/image.php?image=b8walls016.jpg&size=full&download=no>

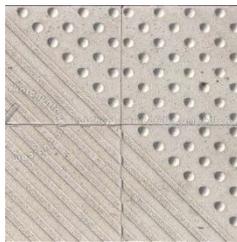


Figure 28–Colour tactile material on the exterior and interior floor surfaces provides an orientation for the elderly and public as well as ensuring safety from falls.

Source: <https://www.sketchuptextureclub.com/textures/architecture/roads/street-elements/tactile-paving-texture-seamless-19720>

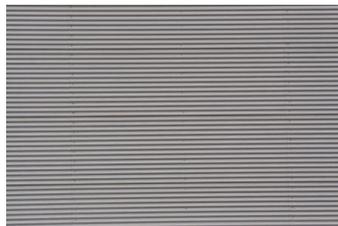


Figure 29 – Recycled steel for vertical fins (Figure 30); to be painted red, blue, green and yellow. This is a familiar reference to local handcrafted traditional work. These cut outs are translated contextually and used as shading devices, for privacy and subtle shadows on the facades.

Source: https://www.123rf.com/photo_2522951_corrugated-steel-texture-in-an-industrial-district-of-barcelona-.html



Figure 30 - Timber gumpoles for pergola structure. The use of timber resembles raw and natural materials, in relation to the Warwick Junction Precinct.

Source: https://www.123rf.com/photo_85683734_light-wood-texture-background-surface-with-old-natural-pattern-or-old-wood-texture-table-top-view-gr.html

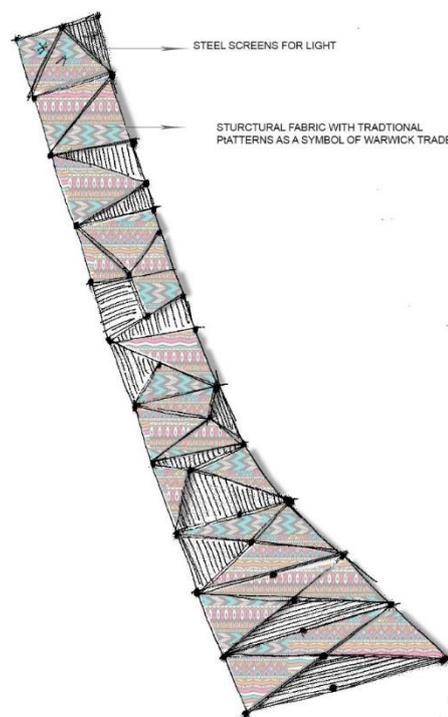


Figure 31 – A tensile structure of the roof for the market stalls are used. The structure consists of lightweight steel columns and a structural fabric which transforms the bead sellers work of Warwick Junction into a contemporary and traditional architectural expression.

Source: Author

3.3. FINAL DESIGN PROPOSAL

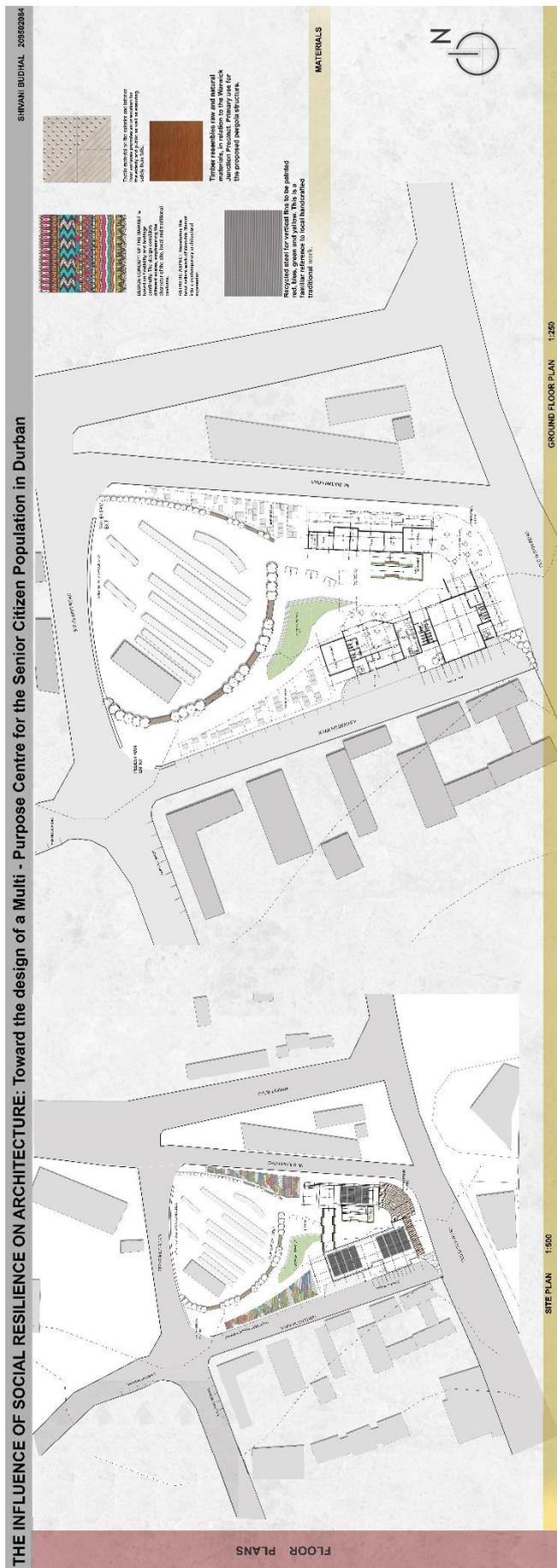


Figure 33 – Floor Plans

Source: Author

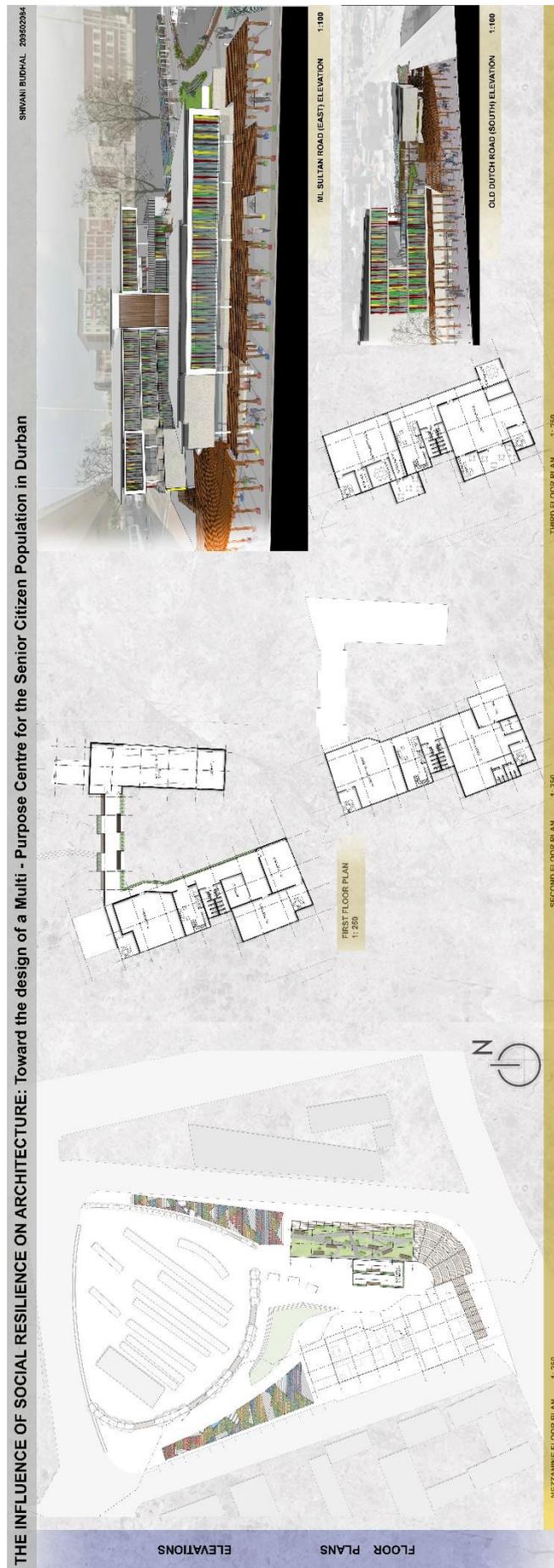


Figure 34 – Floor Plans and Elevations

Source: Author

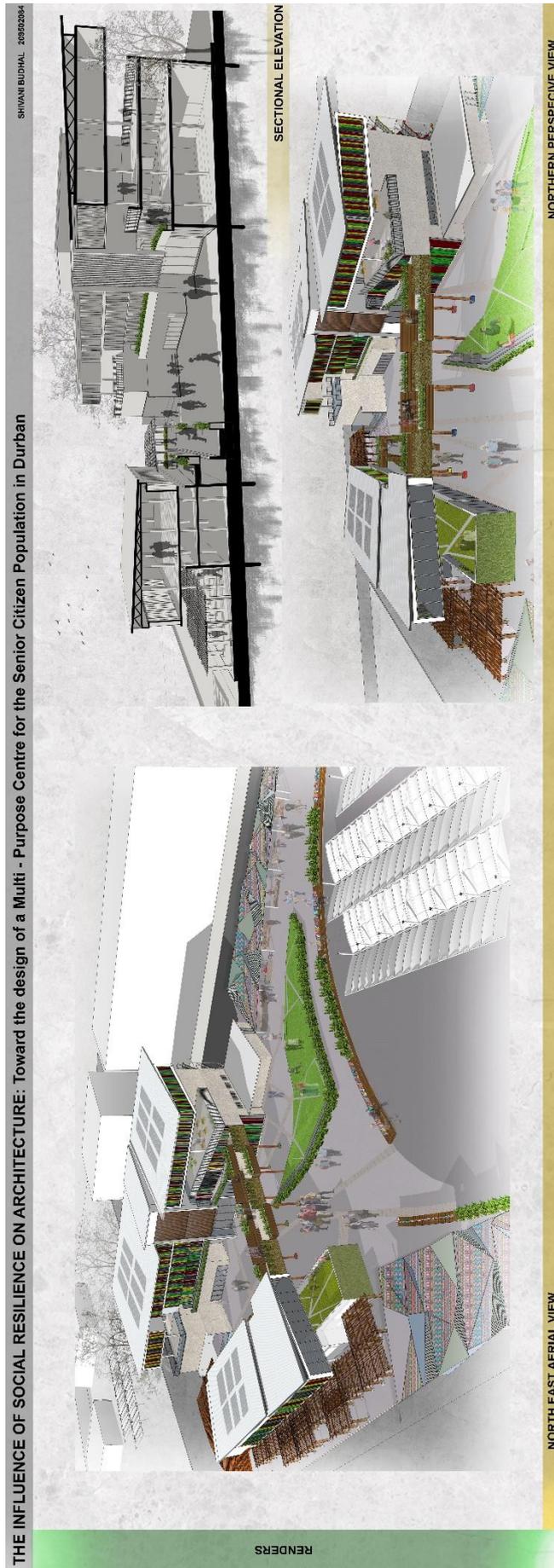


Figure 35 – Renders

Source: Author

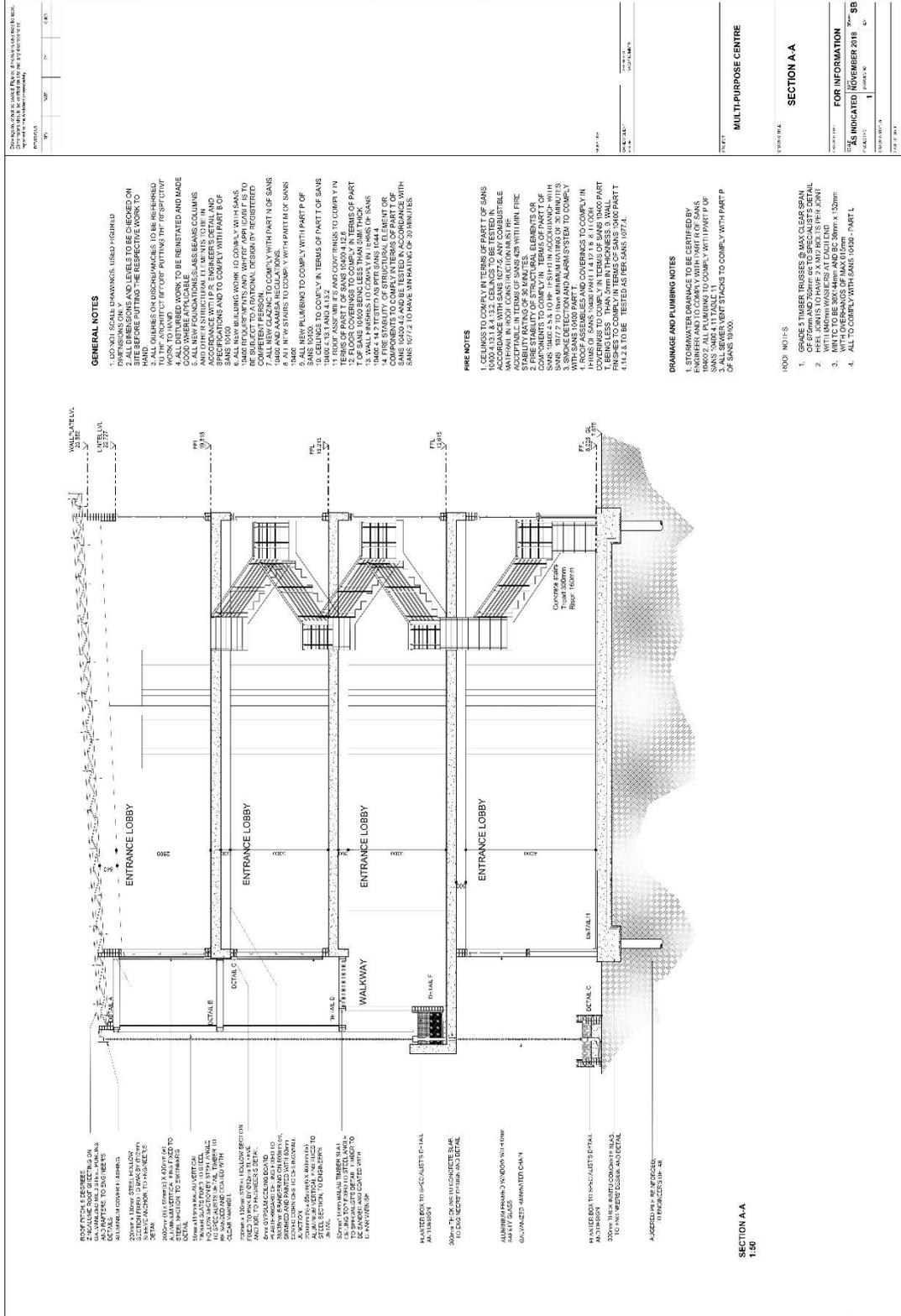


Figure 39 – Section A-A

Source: Author

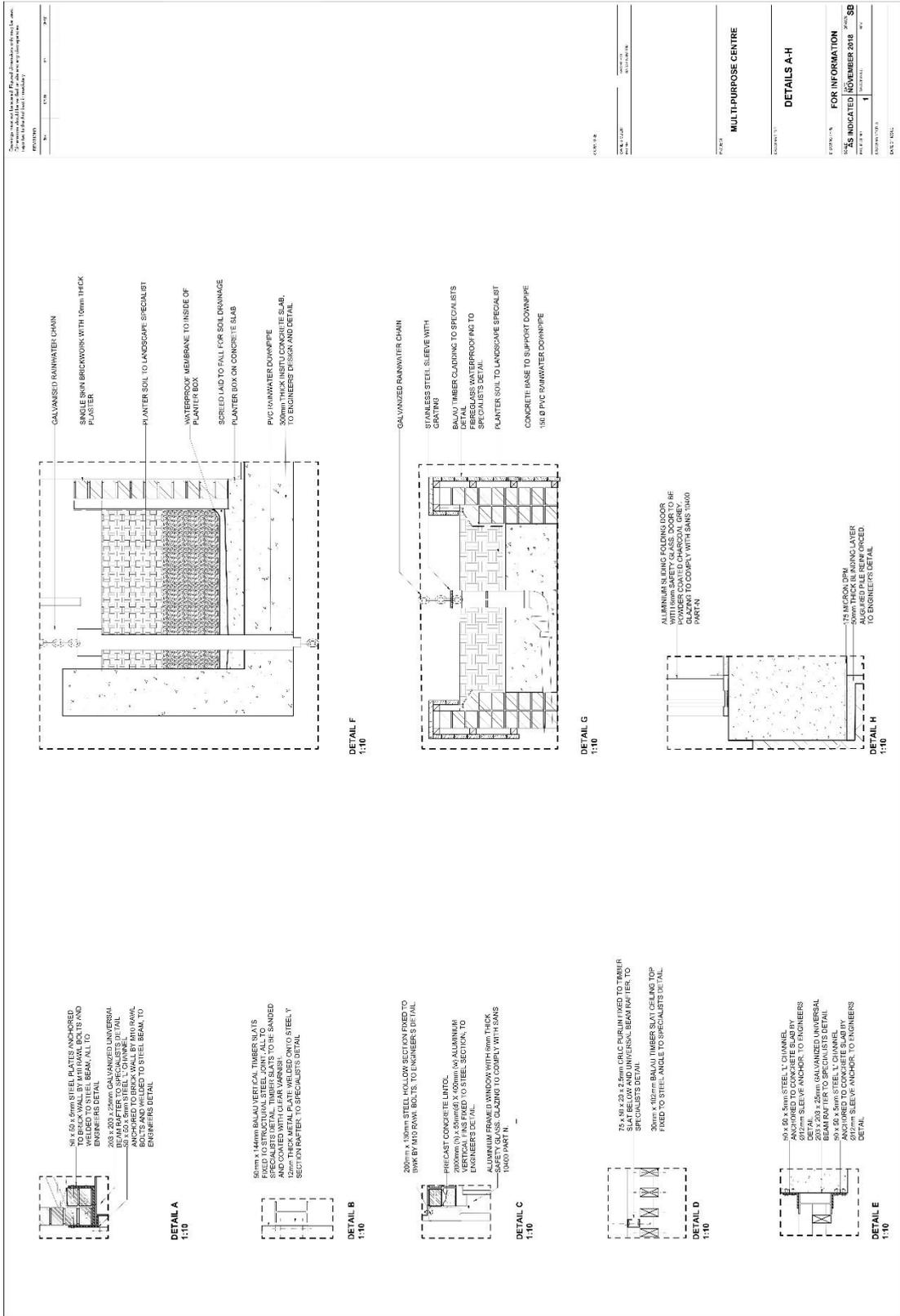


Figure 40 – Technical Details

Source: Author